

**South Puget Sound Community College**  
**Emergency Operations Plan**  
**Appendix L**  
**Infectious Disease Control Plan**

I. General Considerations

- A. Exposure to a variety of infectious diseases in a college population is inevitable. This guide provides information to faculty and staff regarding possible actions to identify infectious diseases, to access appropriate health care and to control the spread of disease.

II. At-Risk Populations

- A. In any population, there are certain individuals who may have a higher risk of complications if exposed to specific diseases. The responsibility of the College is not to determine the extent of that risk, but to inform the campus community when appropriate and to encourage consultation with a licensed health care provider. The licensed health care provider will assess the risk and make appropriate recommendations for further action or treatment.
- B. Handwashing and Hand Sanitizers
  - 1. Frequent handwashing is the most important technique for preventing the transmission of disease. Proper handwashing requires the use of soap and water and vigorous washing under a stream of temperate (warm), running water.
  - 2. Hand sanitizers may be used but are not believed to be as effective as washing with soap and water. Hand sanitizers are never appropriate when there is significant contamination such as would occur during a visit to a petting zoo or farm, after changing a diaper, or after using the bathroom.

III. Definitions

- A. An infectious disease is a disease that is spread from person-to person through casual contact or respiratory droplet, to include, but not exclusively, the following: Tuberculosis (TB), measles (Rubella), German measles (Rubella), hepatitis, Methicillin-resistant *Staphylococcus aureus* (MRSA), and meningitis. Additionally, the College community should pay particular attention to the many different subtypes of type A influenza viruses. Included in this category is the avian influenza or bird flu which continues to spread worldwide. This type of disease can have a devastating impact on the health and welfare of the students, faculty, staff, and the surrounding community.

- B. Infectious diseases which can potentially threaten the health of the campus community as an epidemic include:
  - 1. measles (Rubella)
  - 2. German measles (Rubella)
  - 3. Tuberculosis (TB)
  - 4. Hepatitis
  - 5. Meningitis

#### IV. Procedures

- A. The Vice President of Student Services shall be notified about all known acute and suspected cases of any of the above diseases involving any student. In addition to the Vice President of Student Services, the appropriate VP or Dean will be notified of any cases involving faculty, or staff.
- B. After receiving this information, the Vice President of Student Services, appropriate VP or dean will convey the necessary information to the Campus Security Office and / or the College President.
- C. The appropriate Vice President or Dean will also contact the Thurston County Health Department to obtain the latest recommendations about the management and prevention of the spread of the specific strain of communicable microbe, requesting additional professional and clerical assistance, if deemed necessary.
- D. Students, faculty, and staff should be told to report any signs and symptoms of illness to their private physician or to the professionals at a Hospital, Clinic, or Health Center, where they can be seen, to receive a confidential medical consultation, appropriate treatment, and/or referral to community health organizations, as medically indicated.
- E. Media Relations
  - 1. The appropriate Vice President or Dean will work with the Dean of College Relations to provide medical information concerning the communicable disease to the media, students, faculty and staff as appropriate.
- F. General Infection Control Measures
  - 1. Visual Alerts
    - (i) When warranted and as instructed by the Vice President of Student Services, post visual alerts as appropriate on campus.
    - (ii) Place informational literature in easily visible and accessible locations
  - 2. Respiratory hygiene/cough etiquette to contain respiratory secretions, all persons with signs and symptoms of a respiratory infection, regardless of presumed cause, should:
    - (i) Cover the nose/mouth when coughing or sneezing.
    - (ii) Use tissues to contain respiratory secretions.
    - (iii) Dispose of tissues in the nearest waste receptacle after use.
    - (iv) Perform hand hygiene after contact with respiratory secretions and contaminated objects/materials.

3. Masking and separation of persons with symptoms of respiratory infection
  - (i) During periods of increased respiratory infection in the community, the college may offer masks to persons who are coughing. (Respirator masks are not necessary.)
  - (ii) Encourage coughing persons, however, to sit at least 3 feet away from others in common areas.
4. Physical safeguards
  - (i) Ensure the availability of waste receptacles.
  - (ii) Ensure the availability of soap and disposable towels for hand washing where sinks are available.
5. General hand washing In addition to respiratory hygiene, members of the campus community may be reminded to wash their hands after:
  - (i) Going to the bathroom.
  - (ii) Before and after eating.
  - (iii) After contact with or being near someone who is ill.
  - (iv) Before and after handling and preparing food.
  - (v) After touching animals.

## V. Common Indicators of Infectious Diseases

### A. Introduction

1. Since instructors spend several hours a day with their students, they are often in an excellent position to detect early physical and behavioral changes in students.
2. The physical and behavioral “indicators” listed below are nonspecific and do not in themselves suggest the presence of an infection.

### B. Behavior

1. Irritability may be associated with illnesses, often because of the accompanying fatigue, fever, and discomfort.

### C. Skin Color

1. A pasty, pale appearance may signal an illness, especially if it is a change from a student’s normal skin color.

### D. Rash

1. The diagnosis of rashes can be very difficult and even a licensed health care provider may require lab tests to confirm whether a certain disease is present.
2. Itchiness of the rash is not a signal of infectiousness or noninfectiousness.

### E. Cough

1. Coughs accompany some chronic conditions, allergic conditions, and many infectious diseases. Persistent coughs (lasting 3 weeks or more), especially with other symptoms such as fever, loss of appetite, and weight loss, need medical evaluation.

F. Note

1. Prompt identification is important to the control of infectious diseases. Therefore, throughout this guide, distinguishing characteristics of various infectious diseases are given, along with the College's options for intervention.

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### **Acquired Immunodeficiency Syndrome (AIDS)**

#### Description

Acquired Immunodeficiency Syndrome (AIDS) is the final stage of an infection caused by the Human Immunodeficiency Virus (HIV). Special white blood cells that coordinate the body's fight against infection (CD4 lymphocytes) are killed by the virus as the HIV infection progresses, making the person vulnerable to other serious infections and cancers. These infections, that would not be a threat to people with normal immune systems, are called opportunistic infections. The virus also multiplies in the central nervous system, destroying brain cells, and may cause memory loss, personality changes, and dementia late in the course of the illness. Infection with HIV may have several results:

1. Most infected people remain without symptoms for many years after infection. These people develop antibodies to HIV but have no other signs of infection. Although they have no symptoms, these HIV-infected persons can still infect others through needle sharing, sexual intercourse, or through blood exposure to eyes, mucous membranes, or cuts or sores in the skin.
2. Some people with HIV infections develop opportunistic infections or have nonspecific symptoms such as lymphadenopathy (swollen glands), loss of appetite, chronic diarrhea, weight loss, fever, and fatigue. The signs and symptoms of HIV may be very mild or quite severe. For example, some children with HIV infection may have life-threatening diarrhea, while others feel well. The number of HIV-symptomatic people who go on to develop AIDS is the subject of many current studies.
3. Studies show 50 percent of HIV-infected people are diagnosed with AIDS within 10 years after infection. AIDS is a life-threatening condition. Opportunistic infections may eventually overwhelm the immune system, resulting in death. Several drugs are now available that help reduce or halt the progression of some of these opportunistic infections. Many more drugs are being tested in clinical trials. In 1996, the Food and Drug Administration approved the first protease inhibitors; a class of drugs that inhibits HIV and increases the number of CD4 lymphocytes. Early diagnosis is crucial in assisting HIV-infected people to obtain appropriate medical and psychological care.

### Mode of Transmission

HIV has not been shown to be transmitted through casual contact such as occurs in the normal school setting. HIV is transmitted through sexual intercourse, through sharing needles or syringes, and through contact with blood or its components from infected individuals. When a student with HIV infection or AIDS is enrolled, no real risk is present to other students unless the student has severe behavioral problems that make blood-to-blood contact likely. The student, however, may be particularly susceptible to infectious disease. Universal precautions will be effective in eliminating any threat of infection with HIV.

### Antibody Development and the Incubation Period

Antibodies to HIV usually appear in a person's blood from 3 weeks to 3 months after infection with the virus. In rare instances, it may take as long as 6 months for children or adults to develop antibodies. Infants born to infected mothers may have maternal antibodies that disappear between 12 and 18 months after birth. If the baby is infected, it will not produce its own antibodies until its immune system is developed, at about 18 months. There are tests available to diagnose HIV infection in infants. The incubation period for the symptoms of HIV infection (AIDS) may depend on many factors, including: (1) the immune status of the infected person, (2) how the person was infected (sharing needles or injection equipment versus sexual intercourse), and (3) access to medical care or treatment facilities. Estimates of possible incubation periods for symptoms range from a few months to several years for children infected at birth to over 10 years in adults who were infected through sexual intercourse.

### Infectious Period

People with HIV infection or AIDS are infected with the virus for life. A majority of HIV-infected people will have positive virus cultures from blood and semen. Tears and saliva contain very few, if any, viral particles and are not considered significant modes of transmission. Recent dental research has shown that saliva contains enzymes that inhibit HIV, including HIV in the blood cells of saliva. Saliva containing visible blood is considered potentially infectious under the Washington Industrial Safety and Health Act (WISHA) bloodborne pathogens standard (WAC 296-62-08001).

Household contact is not considered a significant mode of transmission. Children acquire the infection from their infected mothers before birth or, in rare cases, during a blood transfusion. Over 60 percent of infected children have been born to mothers who were intravenous drug users or sex partners of intravenous drug users. Washington State currently has few diagnosed pediatric AIDS cases.

## College Actions

1. Function as the liaison with the student's licensed health care provider.
2. Maintain and enforce confidentiality for the student. The consent to exchange information and medical records is governed by the Family Educational Rights and Privacy Act (FERPA), the Health Insurance Portability and Accountability Act (HIPAA), RCW 70.24.105, and Chapter 70.02 RCW. Refer to Guidelines for Handling Health Care Information in School Records.
3. Act as a resource and provide in service education for faculty and staff, on infectious diseases as well as on Guidelines for Handling Body Fluids in Schools and Guidelines for Handling Health Care Information in School Records.
4. Recommend contact with a licensed health care provider promptly for acute symptoms.
5. Use cleaning precautions with all body fluids as outlined in Guidelines for Handling Body Fluids in Schools.
6. **DO NOT EXCLUDE STUDENT**, unless the student has severe behavioral problems that make blood-to-blood contact likely.

## **Athlete's Foot (Tinea Pedis)**

### Description

Athlete's foot is a skin infection caused by a fungus in which there is scaling, cracking, and peeling between the toes and on the feet. There may be vesicles (blisters) with thin, watery fluid. Itching and foul odor may occur. Athlete's foot is seen more commonly after puberty.

### Mode of Transmission

Athlete's foot is spread through contact with a fungus, either by direct contact with the skin lesions or indirect contact with contaminated floors, showers, or articles used by the infected person.

### Incubation Period

Variable (thought to be 2–3 weeks).

### Infectious Period

Athlete's foot is infectious as long as the fungus is present on the skin and on contaminated surfaces.

### College Actions

Recommend contact with a licensed health care provider in severe cases when there is a secondary infection or if the condition does not improve with over-the-counter antifungal topical preparations.

Physical and health education teachers can be helpful in preventing the spread of athlete's foot by instructing students about the causes, means of transmission, and prevention of this condition.

**DO NOT EXCLUDE.** The student with an active infection should not use areas where the infection can be transmitted.

### Control of Spread

1. Thorough, frequent cleansing and drying of gymnasium, shower, and pool area floors is essential.

## **Bites**

### **Animal Bites**

#### Description

Most animal bites on college campuses are from laboratory or small pet animals such as white mice, gerbils, guinea pigs, and hamsters. Bites from these animals are generally minor injuries and since the animals are not wild, there is very little risk of rabies or other diseases.

Bites from certain wild or ill mammals do carry a risk of transmitting rabies. The risk of rabies exposure varies by region. In different parts of the United States rabies has been associated with bats, raccoons, foxes, skunks, coyotes, and occasionally other animals bitten by a rabid animal. In Washington State, bats and, very rarely, dogs or cats have been rabid. Squirrels, rodents, and animals raised indoors and kept in cages have essentially no risk of carrying rabies.

Rabies is almost always a fatal disease once the person develops symptoms. Prompt vaccination following an animal bite can reliably prevent rabies from developing. All animal bites should be evaluated by your local health jurisdiction or a designated authority.

#### Mode of Transmission

Animal bites can transmit infectious conditions such as rabies and tetanus. A bite may also become infected with skin organisms such as staphylococcus or streptococcus. Some snakes are toxic. Exotic animals (not from North America) may carry other serious infections. In 2003, rodents from Africa brought monkey pox into the United States, infecting other animals and causing human illness.

#### Incubation Period

Typically 3–8 weeks for rabies. The incubation period ranges from 9 days to 7 years.

#### Infectious Period

Animals with rabies may be infectious for various periods of time. Rabid animals may not show classic symptoms of rabies such as foaming at the mouth or aggressive behavior.

### College Actions

1. Provide basic first aid as quickly as possible, washing the wound thoroughly with soap and water.
2. Remind students as appropriate that college policy does not allow pets on campus.
3. Report to your local health jurisdiction of any animal bites or known toxic snake bites immediately. (Evaluation of the animal may be necessary.)
4. Recommend contact with a licensed health care provider for evaluation of the bite and for additional medical care if needed for bruising, skin damage, or other injury.
5. Recommend contact with a licensed health care provider for tetanus booster, if needed.
6. Contain the animal only if it is safe to do so. For example, put a bucket over a bat on the ground.
7. If a bat or wild animal is the biting animal, do not touch or move the animal.

### Future Prevention and Education

1. Inform students not to touch wild or unfamiliar animals, particularly bats or animals that are acting sick.
2. Do not allow students, faculty, or staff to bring wild animals onto College property.
3. Discourage students from bringing exotic animals onto College property.
4. Advise students to wash their hands properly with soap and vigorous washing under a stream of temperate (warm) running water. Hand sanitizers are never appropriate when there is significant contamination such as would occur when touching an animal.

## **Human Bites**

### Description

Human bites have a higher complication and infection rate than animal bites. Wounds of the lips and the folds and tissue surrounding the fingernails account for most of the self-inflicted bite wounds that come to the attention of medical personnel. Occlusional bites (those made by the upper and lower teeth closing) may affect any part of the body, but most often affect the ends of the index and long fingers. About 10–20 percent of human bites seen in emergency rooms are “love nips,” and these injuries may come to the attention of faculty and / or staff. Bites to the hands are more serious and more frequently become infected.

Remember that although tetanus may be the first infection that comes to mind in connection with a bite, other infections, severe bruising, or skin cuts may occur. These injuries may require first aid and possibly referral for medical care.

### Incubation Period

Development of infection from a bite depends on the depth of the wound, the extent of tissue damage, and the type of infecting bacteria. Up to 45 percent of the anaerobic gram-negative bacilli isolated from human bite wounds may be antibiotic resistant (penicillin and  $\beta$ -lactamase positive).

### Infectious Period

Bacteria in the mouth or on the skin can cause serious infections. There has not been clearly documented rabies transmission between humans.

### College Actions

1. Provide basic first aid as soon as possible, washing the wound thoroughly with soap and water. Remember that bites to the hand have greater potential for infection.
3. Recommend contact with a licensed health care provider for evaluation of the bite and for additional medical care, if needed, for bruising, skin damage, or other injury.
4. Recommend contact with a licensed health care provider for tetanus booster, if needed.

## **Chickenpox (Varicella)**

### Description

Chickenpox (varicella) is an acute viral illness of sudden onset characterized by fever, fatigue, and a generalized eruption of the skin. Each lesion begins as a small dewdrop-like vesicle (blister) that scabs over in 3–4 days. These lesions tend to be more abundant on the trunk than on the arms and legs. Lesions in the eyes and mouth may not appear typical and may not have vesicles (blisters).

The illness can be more severe in teens and adults than in younger children.

### Mode of Transmission

Transmission of this highly contagious disease is person-to-person by direct contact, droplets or airborne spread of secretions of the respiratory tract, or indirectly through articles freshly soiled by discharges from vesicles (blisters) and mucous membranes of infected persons. Chickenpox is not transmitted to or from animals.

### Incubation Period

10–21 days, usually 14–16 days.

### Infectious Period

Chickenpox is infectious from 1–2 days before the rash appears, to the time when the last crop of vesicles (blisters) are dry and crusted (usually 5–6 days after start of rash).

### College Actions

1. Report to your local health jurisdiction of individual cases is not required.
2. Report to your local health jurisdiction of outbreaks (eight or more cases) is required.
3. Recommending contact with a licensed health care provider is optional.
4. Notify the student's classmates of the presence of chickenpox.
5. During outbreaks in schools, inform campus community of the possible risks of acquiring the infection.
6. **EXCLUDE STUDENTS** until all lesions have crusted.

7. Clean or dispose of articles soiled with nose and throat discharges.
8. Instruct students not to share items that may be contaminated with saliva such as beverage containers.
9. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
10. Encourage proper handwashing techniques.
11. Make referral of susceptible persons for immunization within 72 hours of exposure.
12. Dispose bandages that have been in contact with the vesicles (blisters) in a biohazard bag.
13. Disinfect surfaces that have been in direct contact with fluid from the vesicles (blisters).

## **Common Cold**

### Description

The common cold is a viral upper-respiratory infection that inflames the lining of the nose and throat. Symptoms include runny nose, watery eyes, sneezing, coughing, aches, pains, and occasionally fever. Colds are caused by viruses, not by drafts or failure to wear a coat.

### Mode of Transmission

The common cold is transmitted by direct contact, droplets from sneezing or coughing, or sharing utensils.

### Incubation Period

12–72 hours is usual; may be up to several days.

### Infectious Period

The common cold is infectious 1 day before the onset of symptoms until a week or more after onset.

### College Actions

1. Report to your local health jurisdiction is not necessary.
2. Recommend contact with a licensed health care provider if symptoms of significance persist beyond 14 days, or if secondary complications develop.
3. **DO NOT EXCLUDE**

### Control of Spread

1. Clean or dispose of articles soiled with nose and throat discharges.
2. Instruct students not to share items that may be contaminated with saliva such as beverage containers.

3. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.

4. Encourage proper handwashing techniques.

#### Future Prevention and Education

1. Colds are generally self-limiting and disappear on their own without complications.

2. Colds do not respond to antibiotics.

## **Conjunctivitis (Pink Eye)**

### Description

Conjunctivitis is a common infectious disease of one or both eyes caused by several types of bacteria and viruses. The eye waters profusely, appears extremely red, and feels irritated. The eyelid may be swollen and the student may complain of itching, pain, and sensitivity to light. Vision is usually normal. There may be drainage of mucous and pus or clear liquid.

### Mode of Transmission

Conjunctivitis is spread through contact with discharge from eye or respiratory passages or through contaminated fingers or personal articles such as eye cosmetics or contact lenses.

### Incubation Period

24–72 hours.

### Infectious Period

Conjunctivitis is infectious during active infection (until symptoms have resolved).

### College Actions

**1. Exclude student from school and refer to licensed health care provider if there is white or yellow drainage from the eye, altered vision, and/or redness of the eyelid or skin surrounding the eye.** Minimal redness to the white of the eye with no other symptoms is not grounds for exclusion.

Recommend contact with a licensed health care provider.

### Control of Spread

1. Readmit to school upon licensed health care provider approval (with or without treatment).

2. Report to your local health jurisdiction clusters of cases, regardless of the

suspected cause of conjunctivitis.

3. Educate students not to share eye cosmetics, contact lenses, or equipment touching the eye such as microscopes.

#### Future Prevention and Education

Reinforce the use of good personal hygiene. Remember that a source of infection for girls with recurrent infections may be contaminated eye makeup. If such is suspected, the mascara or eyeliner should be discarded. After treatment is completed, a fresh supply should be used.

#### Note

Other causes of red and weeping eyes include allergies, drugs, chemicals, and systemic illnesses. They are handled according to the underlying cause, but generally do not require exclusion from school unless the student is very uncomfortable.

## **Cytomegalovirus Infection (CMV)**

### Description

Cytomegalovirus infection (CMV) is a member of the herpes virus group that includes herpes simplex, varicella, and Epstein Barr. CMV is fairly common (between 50–85 percent of the United States population tests positive by the age of 40 years) and is usually asymptomatic in healthy children. If symptoms do occur they may mimic those of infectious mononucleosis (sore throat, fever, fatigue, and swollen glands).

CMV is spread by contact with secretions or excretions of a previously infected person. In adults, CMV is probably sexually transmitted. Because CMV infection is so common and signs of disease rarely occur in healthy adults and school-age children, testing students for CMV is not recommended.

### Incubation Period

3–12 weeks.

### Infectious Period

CMV is infectious months to episodically for years.

CMV is common among the general population; infected neonates (infants less than the age of 4–6 weeks) may excrete the virus for 5–6 years. Anywhere from 8–60 percent of infants begin shedding the virus during the first year of life.

### College Actions

1. Implement universal precautions. See Guidelines for Handling Body Fluids in Schools.

### Control of Spread

1. Avoid sharing beverage containers and eating utensils and follow universal precautions.

## Diarrhea

### Description

Infectious diarrhea, sometimes with abdominal pain, nausea, vomiting, and fever, may have a number of causes. Organisms causing diarrhea are most commonly viruses, but may include bacteria and parasites like amoeba, Giardia, and intestinal worms. The kinds and severity of symptoms will vary according to the causative organism and the resistance of the person infected. Fecal-oral contamination (carrying the infection from human waste to the mouth) is a common method of transmission. Infection can also be transmitted by contaminated food, water, or swimming water. Salmonella is carried by animals, including cows, birds, and reptiles, and can be transmitted if animal waste is carried to a person's mouth

### Description Incubation Infectious Period Duration

Viral Low fever, Usually 24–72 hours During illness and 1–2 days  
Gastroenteritis vomiting, cramps, hours shortly thereafter  
(also called diarrhea, body stomach flu) aches, headache

Salmonella\* Cramps, diarrhea, 6–72 hours During illness and Variable (days to nausea, vomiting, (usually 12–36) as long as weeks) may have blood or organism is in pus in stool, may stool (usually 1–4 weeks) have fever weeks)

Shigella\* Diarrhea, fever, 1–7 days (usually During illness and Variable (days to vomiting, cramps, 2–4) as long as weeks) may have blood or organism is in pus in stool stool (usually 1–4 weeks)

E. coli O157:H7\* Diarrhea, cramps, 1–9 days (usually During illness and Variable (days to may have blood in 3–4) as long as weeks) stool or severe organism is in complications stool (usually 1–4 weeks)

Giardia+ Frequent, pale 5–25 days or During entire Variable (weeks to greasy diarrhea; longer; median 7– infection, which months) cramps; bloating; 10 days may be fatigue; weight asymptomatic loss; may be asymptomatic

\* Requires a case report to your local health jurisdiction within 1 day of diagnosis.

+ Requires a case report to your local health jurisdiction within 3 days of diagnosis.

### College Actions

1. Report to your local health jurisdiction groups or clusters of suspected food or waterborne illness immediately.
2. Report to your local health jurisdiction confirmed cases of Salmonella, Shigella, E. coli O157:H7, viral hepatitis A, or Giardia. Food handlers with diarrhea should be cleared by a licensed health care provider or their local health jurisdiction before returning to work.

### Control of Spread—Giardiasis

1. This diarrheal disease is caused by protozoan parasites. Local outbreaks generally occur from contaminated water supplies and less often from focally contaminated food.
2. The infected individual may show no symptoms. Therefore, proper handwashing techniques and appropriate disposal of feces and materials contaminated with fecal material must be completed.
3. In the event of two or more symptomatic cases that appear linked, investigation to determine the source of infection must be carried out. Contact your local health jurisdiction for assistance in the epidemiological investigation and for control procedures.

### Future Prevention and Education

The main methods of prevention are reinforcement of principles of personal hygiene such as proper handwashing techniques after using the bathroom, surveillance for further cases, and exclusion from work of food handlers with diarrhea or open skin sores. Students should stay at home only during the times that symptoms make them uncomfortable or when their local health jurisdiction so advises. Persons ill with diarrhea should not swim in pools or lakes and should not handle food eaten by others until symptoms are gone.

## **Diphtheria**

### Description

Diphtheria is an extremely rare, acute infection of the mouth, pharynx, nose, or skin characterized by an inflamed throat and the appearance of a grayish membrane. The lymph nodes of the neck tend to be enlarged and there may be marked swelling of the neck. Diphtheria is usually transmitted from person-to-person by airborne droplets from an infected person or carrier. It may be a very serious disease with extreme toxicity and frequent complications, including heart muscle involvement and respiratory obstruction or paralysis. Death occurs in 5–10 percent of cases. Childhood vaccination has almost eliminated diphtheria in this country.

### Incubation Period

Usually 2–5 days.

### Infectious Period

Diphtheria is usually infectious for 14 days or less but may be longer. People who have been treated with antibiotics are generally infectious for only 1–2 days after treatment is started. Carriers (persons who are infected but not ill) may shed the organism for an extended period and are infectious.

### College Actions

1. Report to your local health jurisdiction of confirmed cases is mandatory. Follow your local health jurisdiction's recommendation regarding exposed, susceptible persons.
2. Recommend contact with a licensed health care provider of suspicious cases immediately.
3. **EXCLUSION IS MANDATORY** until there are two negative cultures more than 24 hours apart, and more than 24 hours after the cessation of antibiotic treatment.

### Control of Spread

1. Your local health officer will advise the when readmission is permissible.  
Generally,

### Future Prevention and Education

1. Clean or dispose of articles soiled with nose and throat discharges.
2. Instruct students not to share items that may be contaminated with saliva such as beverage containers.
3. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
4. Encourage proper handwashing techniques.

## **Fifth Disease (Erythema Infectiosum)**

### Description

Fifth disease, also known as erythema infectiosum, is a mild rash illness caused by human parvovirus B19. It usually occurs in students in late winter and early spring, sometimes in clusters or outbreaks. The illness is characterized first by headache, body ache, sore throat, low-grade fever, and chills. These symptoms are usually mild and resolve after a few days. Then, following a week of no symptoms, a bright red rash appears on the cheeks giving a “slapped face” appearance, sometimes with a “lacy” rash on the arms and legs. The rash is benign but can fade and recur for a few days or a few weeks, especially in response to changes in environmental temperature. Adults may not develop the rash but sometimes experience pains in the joints of their hands and feet. Approximately 25 percent of adults who contract the infection have no symptoms.

### Mode of Transmission

Fifth disease is spread by respiratory droplets and from mother to fetus.

### Incubation Period

Estimated to be 4–20 days to development of rash.

### Infectious Period

Individuals with Fifth disease are probably contagious only from respiratory secretions early in the illness. Thus, by the time the rash appears, the individual is no longer contagious. Immunosuppressed people with chronic infection may be infectious for months to years.

### College Actions

1. No treatment is indicated for this illness and it is **NOT NECESSARY TO EXCLUDE** unless there is discomfort from symptoms.

### Control of Spread

1. Wash hands after contact with respiratory secretions and dispose of facial tissues containing respiratory secretions.
2. Clean or dispose of articles soiled with nose and throat discharges.
3. Instruct students not to share items that may be contaminated with saliva such as beverage containers.
4. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
5. Encourage proper handwashing techniques.

## **Foodborne Disease**

### Description

Foodborne disease is a broad term referring to many different kinds of infections and poisonings that are spread by food. Foodborne disease can be caused by bacteria, viruses, parasites, chemicals, naturally occurring poisonous plants, and other agents. Depending on the agent and the patient, foodborne disease often manifests with any combination of the following: diarrhea (with or without blood), vomiting, nausea, abdominal cramps, fever, decreased energy, headache, loss of appetite, sore throats, and allergic reactions. In rare cases, kidney failure, blood clotting disorders, neurological symptoms, blood stream infections, and death can result.

Mishandled or contaminated food is the leading cause of diarrheal illness in the United States. *Campylobacter jejuni* gastroenteritis is the most common reported cause of diarrheal illness in Washington State. Norovirus or other nonspecific viral agents are a common cause of what is often called “stomach flu” and can be spread by contaminated food, contaminated water, or person-to-person transmission. The extent to which foodborne viral gastroenteritis contributes to school absenteeism appears significant, but remains undocumented. Other common causes of foodborne illnesses include *Clostridium perfringens*, *Salmonella*, *E. coli* O157:H7, *Bacillus cereus*, and viral hepatitis A. Staphylococcal food poisoning is now very rare in Washington State.

Foodborne disease is usually self limiting. Treatment is usually supportive and focused on fluid replacement and, in some cases, fever control. More aggressive treatment may be indicated in severe cases as prescribed by the licensed health care provider.

### Mode of Transmission

The transmission of foodborne illness often requires one or more of the following conditions: serving raw or inadequately cooked foods (meat, milk, eggs), bacterial multiplication in food held at room temperature instead of being chilled or kept hot, cross-contamination of food with raw meat or poultry, or contamination of food by an infected food handler.

### Incubation Period Examples Usual Incubation Periods

Chemical poisonings Copper 15 minutes to 2 hours

Pesticides (sometimes up to 4 hours)

Mushrooms

Bacterial enterotoxins *Staphylococcus aureus* 30 minutes to 5 hours

*Clostridium perfringens* 8–22 hours

*Bacillus cereus* 30 minutes to 5 hours

(vomiting)

8–16 hours (diarrhea)

Bacterial, viral infections *Campylobacter* 18 hours to 5 days

*Salmonella*

*E. coli* O157:H7

*Shigella*

### Infectious Period

Infected food service workers may be infectious before, during, and after symptoms, depending on the agent, the patient, and treatment received. For example, a case of salmonellosis treated with antibiotics may remain infectious for several weeks after symptoms have ceased.

### College Actions

1. Exclude food handlers with gastrointestinal upsets, enteric disease, and respiratory infections from working with food or food contact surfaces for at least 24 hours after the symptoms have ceased or until any applicable public health recommendations have been satisfied. (There are special requirements for food handlers with *Shigella*.)
2. Report to your local health jurisdiction of possible or confirmed foodborne illnesses immediately.
3. Assist local and state public health investigators with obtaining laboratory samples and interviewing cases and controls in outbreak situations.

### Control of Spread

1. Ensure safe food handling practices for students and staff in the school environment, especially handwashing, use of gloves, control of food temperatures, rapid cooling, adequate cooking and reheating, protecting food from contamination by raw meats, and preparing food only when feeling well.
2. Ensure adequate handwashing facilities for all students and staff handling food (warm water, soap, and paper towels). This is required under Chapter 246-366 WAC.

## **Hand, Foot, and Mouth Disease (HFMD)**

### Description

Hand, foot, and mouth disease (HFMD) is a common viral illness of infants and children. It is characterized by fever, sores in the mouth, and a rash with vesicles (blisters). HFMD begins with a mild fever, poor appetite, fatigue, and, frequently, a sore throat. One or two days after the fever begins, sores develop in the mouth. They begin as small red spots that blister and then often become ulcers. They are usually located on the tongue, gums, and inside of the cheeks. The skin rash develops over 1–2 days with flat or raised red spots, some with vesicles (blisters). The rash does not itch and it is usually located on the palms of the hands and soles of the feet. It may also appear on the buttocks. A person with HFMD may have only the rash or the mouth ulcers.

### Mode of Transmission

HFMD is spread from person-to-person by direct contact with nose and throat discharges or the stool of infected persons. A person is most contagious during the first week of the illness. HFMD is not transmitted to or from pets or other animals.

### Incubation Period

Usually 3–6 days. Fever is often the first symptom.

### Infectious Period

HFMD is infectious 2 days before the rash appears and during the acute stage of illness, perhaps longer. Virus may be found in respiratory secretions for several days and in stool for several weeks.

### College Actions

1. Report to your local health jurisdiction clusters of cases.
2. **DO NOT EXCLUDE** unless they are too ill to participate in school activities. Isolation is not necessary.

### Future Prevention and Education

1. Clean or dispose of articles soiled with nose and throat discharges.
2. Instruct students not to share items that may be contaminated with saliva such as beverage containers.
3. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
4. Encourage proper handwashing techniques.

## **Hepatitis**

The word hepatitis means “inflammation of the liver.” Hepatitis can be caused by many things including drugs, toxins, and viruses. Symptoms may include fatigue, loss of appetite, low-grade fever, nausea, abdominal pain, gastrointestinal upset, and, in some cases, jaundice. There are several types of infections classified as viral hepatitis. Each infection is caused by a different virus. They differ in modes of transmission and clinical course. Laboratory and clinical evidence is necessary to distinguish between the types of hepatitis.

### ***Viral Hepatitis A (HAV)***

#### Description

The onset of viral hepatitis A (HAV) infection is usually abrupt with symptoms as described above. HAV varies from a disease that causes no symptoms to a mild illness lasting 1–2 weeks or, rarely, to a severely disabling disease lasting several months. Many cases are mild and without symptoms, especially in children, and are only recognized by liver function tests and laboratory tests of serum and stool.

#### Mode of Transmission

Transmission of HAV is usually by the fecal-oral route (human waste carried to the mouth) and most often directly from person-to-person from inadequately cleaned hands. It may also be spread by contaminated water or food such as contaminated shellfish. If given within 2 weeks of exposure, immune globulin may prevent infection.

#### Incubation Period

15–50 days, average 28–30 days.

#### Infectious Period

Maximum infectiousness occurs during the 2 weeks prior to onset of jaundice, (evidenced by development of a new yellow color to the skin or eyeballs) and probably for 1 week after. Infectiousness falls off dramatically at this point. In cases without jaundice the peak of infectiousness occurs during the latter half of the incubation period or when liver function abnormalities are most evident in blood tests.

### College Actions

1. **Report to your local health jurisdiction of acute HAV is mandatory.**
2. Recommend contact with a licensed health care provider immediately.
3. **EXCLUDE UNTIL CLEARED BY LICENSED HEALTH CARE PROVIDER.**
- 4.. Consult with your local health jurisdiction to determine if anyone should receive immune globulin.
5. Enforce ban on food handling by infected staff or students until cleared by your local health jurisdiction.
6. Transmission at child care centers and among preschool groups is more common than in schools. Child care centers should stress measures to eliminate the danger of fecal-oral transmission by enforcing proper handwashing techniques after every diaper change and before eating. Immune globulin may be necessary for staff and attendees when there is a child care outbreak.

### Control of Spread

1. **EXCLUDE** until cleared by a licensed health care provider to return.
2. Students may be infectious and spread the disease even though they do not themselves show signs of illness.
3. Discourage sharing of beverage containers.

### Future Prevention and Education

1. A safe and effective vaccine is available and recommended for persons of the age of 2 years and older who are traveling or working in countries with high or intermediate risk of HAV infection.
2. Because HAV is transmitted through food and water as well as person-to-person, no student or adult with suspected HAV, or in a family with HAV cases, should be allowed to work as a food handler.

## ***Viral Hepatitis B (HBV)***

### Description

The onset of viral hepatitis B (HBV) infection is generally more gradual and subtle than viral hepatitis A (HAV) but with the following symptoms: anorexia, nausea, vomiting, abdominal discomfort, and sometimes jaundice. Severity of the disease can vary from nonapparent cases, recognized by serological tests, to a rapidly worsening fatal illness. Most people recover from the infection, though up to 5 percent of adults born in the United States become chronic carriers of the disease and are infectious indefinitely. The rate of chronic carriers for people from other parts of the world is 1–20 percent. Carriers are at risk of developing chronic liver disease and liver cancer. Since about 50 percent of those infected have no symptoms, persons may not know they have HBV but still may be able to infect others.

### Mode of Transmission

HBV is transmitted by exposure to infected blood or blood products, vaginal fluids, semen, and possibly saliva. HBV is transmitted from person-to-person by contaminated syringes, needles and other instruments (including ear piercing instruments), intravenous drug use, sexual contact, household contact with an infected person, or from an infected mother to her infant. Transmission occurs through mucous membranes or nonintact skin. High rates of infection have been found among illegal intravenous drug users, men who have sex with men, patients on hemodialysis, residents of long-term care institutions, and those requiring frequent transfusions. If given within 2 weeks of exposure, hepatitis B immune globulin (HBIG) may prevent infection.

### Incubation Period

45–160 days, average 120 days.

### Infectious Period

Blood and body fluids are contagious prior to and for weeks after jaundice. Blood from experimentally infected volunteers has been shown to be infectious many weeks before the onset of any symptoms, throughout the clinical course of the illness, and, in some cases, into a carrier state that may continue for the rest of the person's life.

### College Actions

1. Report to your local health jurisdiction is mandatory.
2. Recommend contact with a licensed health care provider for acute symptoms.
3. Under normal circumstances, casual contacts at school (student, faculty, and staff are not at significant risk for contracting the disease. In the unusual circumstance of a school-centered epidemic, HBIG is recommended for prevention (prophylaxis) for close contacts.
4. Enforce strict confidentiality of health care information.
5. Use cleaning precautions with all body fluids.

### Control of Spread

1. Consult with your local health jurisdiction if there is any question about when the infected person may return to school after recovery.
2. Use cleaning precautions with all body fluids.
3. Employers are required to provide evaluation for employees exposed to blood or other potentially infectious material under the WISHA bloodborne pathogens standard (WAC 296-62-08001).

### Future Prevention and Education

1. Routine HBV vaccine is recommended for all children and adolescents from birth through the age of 18 years. It is a three-dose series with the second and third doses given 1–6 months after the first. Expect new formulations in the future.
2. Staff having frequent and routine contact with blood, skin lesions, saliva, or infected secretions (such as occurs in doing first aid or health/nursing procedures) of an HBV-infected individual, or with those in a high-risk group (deinstitutionalized mentally disabled, individuals from certain areas of Asia and Africa) should receive the HBV vaccine. The chief means of transmission to staff would probably occur through contamination of wounds or lacerations or by exposure of mucous membranes to infected blood. Contact your local health jurisdiction and/or Washington State Department of Labor and Industries industrial hygiene consultant to evaluate the need for individual school staff to be immunized. School staff with designated job duties that may involve exposure to blood must be offered the vaccine. Their employer is responsible for

complying with all provisions of the WISHA bloodborne pathogens standards. For additional information, see Guidelines for Implementation of Hepatitis B and HIV School Employee Trainings (available from OSPI Health Services at 360-7256040).

For WISHA standards on occupational exposure to bloodborne pathogens, see WAC 296-62-08001 and the WISHA Web site at <http://www.lni.wa.gov/wisha/>.

3. In institutions for the developmentally disabled, vaccination of classroom contact is strongly encouraged if a classmate who is a HBV carrier behaves aggressively or has special medical problems that increase the risk of exposure to his/her blood or serous secretions.

4. Persons in casual contact with carriers in settings such as schools and offices, are at minimal risk of HBV infection and vaccine is not routinely recommended for them.

5. If exposure to blood or serous secretions from an infected person occurs through a needlestick, a cut or wound, or through the eyes or mucous membranes, treatment with HBIG and/or HBV vaccine may be indicated. Referral of employees after an exposure incident for evaluation and treatment by a licensed health care provider is required by the WISHA bloodborne pathogens standard.

6. Using gloves during diaper changing and paying strict attention to handwashing are required in child care settings.

#### Immunization Requirement, State of Washington

Completion of the three-dose series of HBV vaccine is required for all children in Grades K–6 for school year 2003–04. The requirement will move up a school grade each year. School year 2009–10 will require HBV vaccine for all students Grades K–12. The presence of Running Start High School students on campus would include this population. Adolescents should be strongly encouraged to complete the vaccine series if they have not already done so.

## ***Viral Hepatitis C (HCV)***

### Description

The signs and symptoms of viral hepatitis C (HCV) infection are indistinguishable from those of hepatitis A or B. However, the vast majority of people acutely infected with HCV (up to 90 percent) have no symptoms and the infection is frequently not recognized. Up to 80 percent of infections will become chronic and up to 20 percent of those chronically infected will develop cirrhosis after many years of infection. HCV is currently the most common indication in the United States for a liver transplant. Similar to viral hepatitis B (HBV), chronically infected persons carry the virus and may infect others.

### Mode of Transmission

HCV is transmitted primarily by exposure to infected blood and other body fluids and, prior to the routine HCV screening of blood products, was transmitted by blood products. Currently, most HCV infections are acquired through sharing of contaminated injection equipment. HCV can also be transmitted through sex or from mother to infant during childbirth, however, this is much less common than with HBV. Unfortunately, there is no effective method of post exposure prevention (prophylaxis) for HCV.

### Incubation Period

2 weeks to 6 months, average 6–9 weeks.

### Infectious Period

Blood and other potentially infectious materials are contagious days to weeks before the onset of symptoms. Those with a chronic infection are infectious indefinitely. HCV is not as easily transmitted as HBV.

### College Actions

1. Report to your local health jurisdiction of acute and chronic cases is mandatory.
2. Recommend contact with a licensed health care provider for acute symptoms.

3. Enforce strict confidentiality of health care information.

#### Control of Spread

1. Consult with your local health jurisdiction if there are any questions about the school attendance of a student with HCV.
2. Unlike HBV, there is no effective treatment to prevent infection after exposure. There would be no need to provide any preventive measures for routine school contacts. Employers are required to provide evaluation for employees exposed to blood or other potentially infectious materials under the WISHA bloodborne pathogens standard (WAC 296-62-08001).
3. To disinfect materials contaminated with blood or other potentially infectious materials, and for the correct disposal of contaminated sharps, see Guidelines for Handling Body Fluids in Schools.
4. Using gloves during diaper changing and paying strict attention to handwashing are required in child care settings.

#### Future Prevention and Education

1. There is currently no effective vaccine to prevent HCV. The primary means of transmission to school staff would probably occur through contamination of wounds or lacerations, or by exposure of mucous membranes to blood or other potentially infectious material. Employers of staff whose designated job duties may expose them to blood or other potentially infectious material must comply with the provisions under the WISHA bloodborne pathogens standard (WAC 29662-08001). See Guidelines for the Implementation of Hepatitis B and HIV School Employee Trainings (available from OSPI Health Services at 360-725-6040) or the WISHA Web site at <http://www.lni.wa.gov/wisha/> for additional information.
2. If exposure to blood or other potentially infectious material from a person with HCV occurs through a needlestick, a cut or wound, through the eyes, or mucous membranes, exposed employees must be referred for evaluation as required by the WISHA bloodborne pathogens standard, available through their Web site at <http://www.lni.wa.gov/wisha/p-ts/BBPathogens/default.htm>.
3. The Advisory Committee on Immunization Practice recommends that persons with HCV be immunized with viral hepatitis A and HBV vaccines.
4. Instruct all staff in universal precautions and reinforce the training each school year.

The CDC Web site on hepatitis provides updated material on this infection at <http://www.cdc.gov/hepatitis>.

The Washington State Department of Health Web site provides fact sheets on this infection at <http://www.doh.wa.gov/A-Z.htm>.

For Washington State information on bloodborne pathogens and training, call Labor and Industries at 1-800-4BESAFE.

Clinicians seeking more information or question and answer sheets on hepatitis topics should consult the CDC Web site at <http://www.cdc.gov/hepatitis>. This site includes a continuing education credit section on HCV.

## **Herpes Simplex Virus, Oral Area (Cold Sores)**

### Description

Herpes simplex virus (HSV) is a recurrent, life-long viral infection. New tests indicate that 70 percent of those infected have no symptoms. If symptoms occur, single or grouped vesicles (blister) are usually located around mucous membranes, the lips in the oral area (cold sores), or, more rarely, inside the mouth or on the skin. Two types of HSV exist. Type 1 HSV (orales) has primarily been associated with infections of the oral area. With the advent of new tests, it is known that Type 1 HSV may also cause genital disease. Type 2 HSV (labialis) is most commonly associated with genital disease although it may also cause oral disease. Lesions due to Type 2 HSV are not different in infectiousness or risk to others than lesions due to Type 1 HSV.

Oral infections are extremely common in children, and by adulthood 80 percent of Americans have antibodies to Type 1 HSV.

Herpetic eczema can develop in students infected with HSV and autoinoculation may result in conjunctivitis, herpetic keratitis (inflammation of the cornea), or whitlow. Herpetic whitlow consists of single or multiple vesicular lesions on the distal parts of the fingers.

### Mode of Transmission

Both Types 1 and 2 HSV are transmitted by direct contact with infected skin and secretions during periods of asymptomatic or symptomatic viral shedding. The virus may be transmitted during contact sports such as wrestling. HSV lesions are most infectious while they are in the water blister stage.

### Incubation Period

2–20 days.

### Infectious Period

Skin lesions are infectious until firmly crusted over and healed. The virus can be shed from the site of infection at any time. Sores need not be present. The virus can be shed for at least 1 week during primary infections, less (perhaps 3–5 days) during recurrences.

Infectiousness is greatly reduced when lesions have crusted. Spread of HSV from oral lesions is difficult to prevent since these lesions are not easily covered with bandages. Only students with primary infection who do not have control of oral secretions should be excluded from school or child care. Students with uncovered lesions on exposed surfaces pose a small potential risk to contacts. Exclusion of students with recurrent infection of cold sores is not indicated.

### College Actions

#### *Cold Sores—Skin Lesions*

1. Report to your local health jurisdiction is not required.
2. Cover skin lesions with a bandage or clothing when possible.
3. Avoid direct contact with infected lesions if possible. Wear gloves if direct hand contact to lesions is necessary. Hands must be washed after gloves are removed.
4. **EXCLUDE STUDENTS** with skin lesions from contact sports.
5. Children less than the age of 3–4 years should be encouraged to stay home whenever cold sores are present, especially during the primary episode. It is almost impossible to prevent young children from spreading the virus by fingers and/or mouth contact.

#### *Genital Herpes*

1. Report to your local health jurisdiction for initial (primary) genital infection is mandatory.
2. Report of suspected child abuse cases is mandatory.
3. Use gloves if having direct contact with infectious lesions such as diapering.

### Control of Spread

1. Recommend contact with a licensed health care provider for acute symptoms and methods of control of spread.

### Future Prevention and Education

Provide education and counseling regarding transmission of diseases, recurrence potential, available treatments, and recommended sexual practices to prevent spread.

## **Herpes Zoster (Shingles)**

### Description

Herpes zoster, commonly known as shingles, is caused by the chickenpox (varicella) virus. When an individual has chickenpox, the virus infects the nerves and stays dormant until immunity decreases. Herpes zoster represents a recurrence of a previous chickenpox infection. Children who had chickenpox during the first year of life are more likely to develop herpes zoster in adolescence. Otherwise, herpes zoster usually occurs in elderly or immunocompromised individuals. In herpes zoster there is pain, sometimes severe, over the pathways of the sensory nerves under the skin, followed by an outbreak of small vesicles (blisters). It usually lasts 3–4 weeks. The virus, in the vesicle (blister) fluid of a person who has herpes zoster, is contagious and can cause chickenpox in a nonimmune individual. Individuals who are immunocompromised or are being treated for malignancies may develop severe disease with involvement of not only skin but also internal organs. These individuals should be seen by their licensed health care provider as soon as possible if herpes zoster develops.

### Incubation Period

Uncertain, but may be years since the virus stays dormant after the chickenpox virus.

### Infectious Period

Skin lesions are infectious in the water vesicle (blister) stage until crusted over. The virus can be shed from the site of infection at any time. Herpes zoster has a much lower rate of transmission than that of chickenpox.

### College Actions

1. Report to your local health jurisdiction is not required.
2. Recommend contact with a licensed health care provider if necessary.
3. Advise student not to touch or scratch lesions.
5. Ensure that lesions are covered with a bandage or clothing when possible. Students with herpes zoster are to be **excluded from school if lesions are not covered** with a bandage or clothing.

6. Avoid direct contact with infected lesions when possible. Wear gloves if direct hand contact to lesions is necessary. Hands must be washed after gloves are removed.

7. **EXCLUDE STUDENTS** with lesions from contact sports.

### Control of Spread

1. Dispose of bandages that have been in contact with the vesicles (blisters) in a biohazard bag.

2. Disinfect surfaces that have been in direct contact with fluid from the vesicles (blisters).

### Future Prevention and Education

Routine administration of varicella vaccine to prevent wild-virus chickenpox disease may reduce the incidence and severity of herpes zoster.

## **Impetigo**

### Description

Impetigo is a bacterial skin infection that may begin with small vesicles (blisters) that later may contain pus and become scabbed. Staphylococcal or streptococcal bacteria cause this infection of the skin.

Necrotizing fasciitis (flesh-eating bacteria) is caused by Group A strep; the same bacteria that causes strep throat and impetigo. Unlike strep throat and impetigo, which are common and easy to treat, necrotizing fasciitis is very rare and more difficult to treat. The signs and symptoms are fever with severe pain, swelling, and redness at an open wound site. As with all unidentified rashes, especially those accompanied by fever or illness, Recommend contact with a licensed health care provider. Treatment is early antibiotic therapy. Prevention is practicing good handwashing and keeping all wounds clean.

### Mode of Transmission

Impetigo is spread by direct person-to-person contact.

### Incubation Period

Variable, 1–5 days.

### Infectious Period

Impetigo is infectious until the sores are completely healed.

### College Actions

1. Report to your local health jurisdiction group outbreaks of the disease.
2. Recommend contact with a licensed health care provider. The disease responds very quickly to systemic antibiotic treatment and/or prescription topical antibiotic ointments.

### Control of Spread

1. **Exclusion from school should be reserved for those with extensive draining lesions and is generally not essential unless the licensed health care provider suggests it.** Students should not participate in swimming, body contact sports, or food preparation activities until healed.
2. Antibiotics will decrease the spread of the disease and decrease the incidence of complications from the bacterial infection.
3. Good personal hygiene and soap and water cleansing of minor skin breaks will help to prevent spread.

### Future Prevention and Education

No vaccine is available. Emphasis on good personal hygiene is recommended.

## **Infectious Mononucleosis (Mono)**

### Description

Infectious Mononucleosis (Mono), known as the “kissing disease,” is an acute illness caused by a virus and characterized by fever, sore throat that may resemble strep throat, fatigue, headache, and swollen glands (especially of the neck). There may be a rash, more often in patients who have been treated with amoxicillin/ampicillin. Mono may be very mild or severe. It is recognized more often in adolescents and young adults than in small children. It is a disease that may be difficult to identify and is usually diagnosed through laboratory procedures. Mono is not highly contagious.

### Mode of Transmission

Mono is transmitted through close person-to-person contact.

### Incubation Period

10–50 days.

### Infectious Period

Uncertain, but may be long (several months).

### College Actions

1. Report to your local health jurisdiction is not required.
2. Recommend contact with a licensed health care provider if suspected. Follow medical recommendations for confirmed cases.
3. **Request physical activity clearance from licensed health care provider before student returns to school-related physical activities.**

### Control of Spread

1. Instruct students not to share items that may be contaminated with saliva such as lipstick and beverage containers.
2. There is no specific treatment.
3. Clean or dispose of articles soiled with nose and throat discharges.
4. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
5. Encourage proper handwashing techniques.

### Future Prevention and Education

Provide health information for students as to the usual mode of transmission and reinforce that Mono is not highly contagious.

## **Influenza**

### Description

Influenza is an acute, mild to severe, viral infection characterized by abrupt onset of fever, headache, fatigue, chills, cough, sore throat, and aching muscles. Runny nose, vomiting, and diarrhea may occur but are rare. Symptoms may last from a few days to several weeks. Annual activity most commonly begins in December or January and continues for two or more months.

### Note

Gastrointestinal symptoms alone, often reported as “flu” or “stomach flu,” do not constitute influenza. Diagnosis can be confirmed by laboratory studies.

### Mode of Transmission

Influenza is spread from person-to-person by airborne droplets.

### Incubation Period

1–3 days.

### Infectious Period

The infectious period of influenza is probably limited to 3 days from the time symptoms appear.

### College Actions

1. Report to your local health jurisdiction significant increases in school absenteeism (if attendance or absenteeism information is available) resulting from influenza-like illness.
2. Recommend contact with a licensed health care provider for exceptionally severe cases.

## Note

Children with influenza should not receive aspirin during viral infections because of its possible association with Reye syndrome.

### Control of Spread

There are no effective measures to control the spread of influenza in schools except to keep students who are symptomatic at home.

### Future Prevention and Education

1. Among the elderly or chronically ill, influenza epidemics are frequently associated with deaths in excess of the number normally expected. Prevention or control is aimed at those at greatest risk from serious illness or death. Annual vaccination in September through December, prior to the expected outbreak, is aimed at protecting these individuals. The vaccine is made each year with the strains of influenza virus expected to cause the most infection. Immunization is recommended for persons who have chronic diseases or who are immunocompromised, and those having close contact with such persons.

The Advisory Committee on Immunization Practices recommends that influenza vaccine be included in the routine immunization of children between the ages of 6–23 months. Influenza vaccine should be given yearly.

2. Outbreaks of influenza can cause large increases in absenteeism rather suddenly. Consult your local health jurisdiction to determine the recommendations you should make to students and school staff. Often, school cases will signal the onset of an epidemic in the community.

**Past experience has shown school closure to be ineffective in preventing or aborting influenza outbreaks. However, administrative reasons such as inadequate numbers of substitute teachers to carry on a program, may dictate school closure.**

3. Instruct students not to share items that may be contaminated with saliva such as beverage containers.

4. Clean or dispose of articles soiled with nose and throat discharges.

5. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.

6. Encourage proper handwashing techniques.

## **Lice (Pediculosis)**

*Body Lice (Pediculosis humanus corporis)*

### Description

Body lice in school children in the United States are rare. Body lice appear as an infestation of the clothing, especially within the seams of inner surfaces. The main signs of body lice infection are itching and the detection of live lice. Scratch marks may indicate the presence of lice. Body lice have been associated with outbreaks of typhus, trench fever, and other epidemic conditions. Body lice are usually found in populations that have experienced disasters and/or difficult life circumstances such as no access to bathing facilities or the ability to change clothing.

### Mode of Transmission

Transmission occurs through contact with personal articles such as clothing, especially in the seams of inner surfaces.

### Incubation Period

Body lice eggs normally hatch in 7–10 days. Mature body lice are capable of laying eggs 8–10 days after hatching. The adult life span is about 1 month.

### Infectious Period

Body lice are infectious as long as lice remain alive in a person's clothing. Body lice cannot live away from a human host; most die within 24 hours.

### College Actions

1. Recommend contact with a licensed health care provider for diagnosis if suspected.
2. Instruct individuals to wash clothing in hot, soapy water.
3. As resources allow the college may assess family situation and assist family with community resources.

## *Crab Lice (Pediculosis humanus pubis)*

### Description

An infestation of crab lice is usually detected in the pubic hair but may also be found in axillae (armpits) or where there is coarse hair. The primary symptom is itching in the genital area. Nits or crawling lice may be seen.

### Mode of Transmission

Crab lice are most frequently transmitted by sexual contact. A common misbelief is that infestation can be spread by sitting on a toilet seat. Crab lice cannot live away from a human host for more than 2 days. Also, lice do not have feet designed to walk or hold on to smooth surfaces such as toilet seats.

### Incubation Period

The adult life span is about 1 month.

### Infectious Period

Crab lice cannot live away from a human host; most die within 2 days.

### School Actions

1. Recommend contact with a licensed health care provider for diagnosis if suspected.
2. Report of suspected child abuse cases is mandatory. Consider child sexual abuse when crab lice are present in a student who is not sexually active.

## *Head Lice (Pediculosis humanus capitus)*

### Description

Head lice appear as an infestation on the head, eyebrows, or eyelids. Head lice outbreaks are common in the United States among children between the ages of 3–12 years. Signs and symptoms of head lice infestation include:

1. Itching.
2. A tickling feeling of something moving in the hair.
3. The detection of live lice.
4. Sores or scratch marks on the head caused by scratching.

There may also be eggs (nits) or egg cases attached to hairs. Head lice are not a health hazard or a sign of uncleanliness and are not responsible for the spread of any disease. Thus, **infestation is principally a nuisance rather than a major threat to the student's well being.** Head lice are the cause of much embarrassment, misunderstanding, many unnecessary days lost from school and work, millions of dollars spent on remedies, and many hours spent on the misuse of remedies.

Approaches to controlling the spread of head lice have evolved over the years and continue to evolve. Some chemical agents used in the past to eradicate head lice have proven to be dangerous and toxic to children. The information in this section reflects the current thinking of professional groups regarding head lice in schools.

### Mode of Transmission

Transmission of head lice occurs only by direct contact with a live louse through head-to-head contact or through contact with personal articles such as hats or combs. Transmission may be through play at school and at home (slumber parties, sports activities, at camp, on a playground). Other transmission could be through lying on a bed, couch, pillow, or stuffed animal that has recently been in contact with an infected person. Lice cannot jump, hop, or fly. Live lice can be transmitted as long as the lice remain alive on a person's head or on their clothing. Lice cannot live away from a human host; most die within 7 days.

### Incubation Period

Head lice eggs normally hatch in 7–10 days. Mature head lice are capable of laying eggs 8–10 days after hatching. The adult life span is about 1 month.

### Infectious Period

Head lice may be transmitted as long as the lice remain alive on an infested person. Live eggs (nits) may or may not hatch. Only if eggs hatch do they cause further transmission from head to head. As stated above, the adult life span is about 1 month. A student with active head lice infestation has likely had the infestation for a month or more by the time it is discovered. Therefore, that student poses little risk of transmitting live lice to others for 1 day.

By removing nits, the possibility of hatching new lice is minimized.

### College Actions

1. Report to your local health jurisdiction is not required.
2. Recommend contact with a licensed health care provider for diagnosis if suspected.
  - a. Health Care providers may.
    - i. Identify the signs of a head lice infestation and advise student of the care options, including referral for secondary infection evaluation, if suspected. Information and instructions may be provided to the student such as FIGHT LICE! (DOH 130-033), which can be ordered from the Department of Health Publications Warehouse by faxing 360-664-2929. Local health jurisdictions may also have materials available to share with families and staff.
3. Carry out the following additional steps:
  - a. A student who is found with live lice may, depending on policy, remain in class until the end of the day. Discretion should be used regarding individual cases. Students should be discouraged from close head-to-head contact with others.
    - d. The student may return to school when the student reports having been treated and a health care provider reports that the student has no live lice on inspection (see Control of Spread No. 5 below). The student should be re-examined 8–10 days after returning to school to determine that there are no more live lice. As an added preventive intervention, the student should be asked to continue to work at removing nits.

## Chronic Problems

Nonpesticidal substances (nonmedicated shampoos, conditioners, water soluble gels, oils, etc.) could be recommended along with combing and educating about ongoing good personal hygiene practices.

## Control of Spread

1. Chemical products to kill lice are available over-the-counter and by prescription. Inappropriate use of chemical products may have toxic effects, so package instructions should be followed scrupulously. Chemical treatment is not recommended for children under the age of 2 years. Remove crawling bugs and nits by hand. If the problem persists, the child's health care provider should be consulted. One percent gamma benzene hexachloride lotions (Lindane, Kwell) are not recommended. Additional information may be found on the CDC Web site at <http://www.cdc.gov/ncidod/dpd/parasites/headlice/>.
2. Students with head lice should not be identified to other students or staff. **It is not necessary to notify classmates** unless required by policy.
3. To avoid transmission through objects such as patrol helmets, audio headphones, and sports headgear, wipe the object with a dry paper towel to remove the possibility of live lice on the object. Paper hats such as those worn by lunchroom workers, should be discarded and not exchanged among workers (including student workers). Upholstered items such as rugs, chairs, and pillows, may be vacuumed or ironed. Do not apply insecticides to any surface in the classroom. It is unnecessary and can cause allergic or toxic reactions in students and/or staff.
4. Coats can be hung on the backs of chairs or placed in an individual plastic bag labeled with the student's name. Hats and gloves can be tucked in the sleeves or pockets of the student's coat.

## **Measles**

### Description

Measles is a highly infectious viral disease that can lead to serious complications. These complications include diarrhea, ear infections, pneumonia, encephalitis, and death. Before the introduction of a measles vaccine in 1963 there were more than 500,000 measles cases a year and 500 deaths a year in the United States. A case of measles would be a public health emergency.

Measles begins with symptoms that are very similar to a cold. The symptoms include a cough; runny nose; red, itchy, watery eyes; and a high fever (as high as 103–105°F). About 4 days after the symptoms begin, a raised, red rash will appear. The rash will usually last 5–6 days. The rash will appear at the hairline, then spread to the face and upper neck. Over the next 3 days the rash will spread downward and outward, eventually involving the hands and feet. The rash will fade in the order it appears—from head to feet.

### Mode of Transmission

Measles is spread from person-to-person by airborne droplets or by the nasal and throat secretions of an infected person.

### Incubation Period

10–12 days from exposure to upper-respiratory symptoms. 14–21 days from exposure to beginning of rash.

### Infectious Period

Measles is infectious from the beginning of the respiratory symptoms to 4 days after the appearance of the rash.

### College Actions

1. Report to your local health jurisdiction of suspected cases by telephone is mandatory and must be immediate.

2. Recommend contact with a licensed health care provider. Ask the student to inform their provider's office staff of possible measles in order to prevent transmission in the office waiting room.

**3. EXCLUDE CONFIRMED CASES FROM SCHOOL UNTIL 4 DAYS AFTER THE APPEARANCE OF RASH.**

4. Be alert to any student with a high fever; cough; runny nose; red, itchy, watery eyes; and a rash.

5. Measles vaccine is recommended for all adults born since 1957. Most adults born before 1957 are immune because of prior infection. However, there are still some adults born prior to 1957 that have had neither the vaccine nor the disease and thus remain susceptible. State law does not require documentation of staff immunization. However, in the event of a single case in a school, your local health officer may recommend exclusion of susceptible staff.

Control of Spread

1. If a student develops confirmed measles, your local health officer may require implementation of the following control measures:

a. Exclude confirmed case from school until 4 days after the appearance of rash.

b. Exclude students exempted from measles immunization or students without documentation of measles immunization unless those students receive a dose of measles vaccine within a prescribed timeframe.

c. Outbreak control measures listed above also apply to all staff at the affected school that are deemed susceptible to measles by your local health jurisdiction.

d. A second dose of measles vaccine for all students with a history of only one dose of measles vaccine. Students not receiving a second dose of measles vaccine during an outbreak may be excluded from school.

3. Instruct students not to share items that may be contaminated with saliva such as beverage containers.

4. Clean or dispose of articles soiled with nose and throat discharges.

5. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to "catch your cold in your elbow" by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.

6. Encourage proper handwashing techniques.

#### Future Prevention and Education

Measles can be controlled and eventually eliminated if children are vaccinated on time. The current immunization schedule recommends that the first dose be given by the age of 12–15 months. Recommendations are for a second dose to be given between the ages of 4–6 (school entry).

#### Immunization Requirements, State of Washington

Two doses of live virus measles-containing vaccine, both given on or after the age of 12 months and at least 28 days apart, or laboratory evidence of measles immunity is required for all students at school entry (Grades 1–2 and Grades 6–12 for school year 2002–03). The requirement will move up a grade each year. School year 2006–07 will require 2 doses of measles-containing vaccine for all students Grades K–12.

## **Meningitis**

### Description

Meningitis is an infection of the fluid of a person's spinal cord and the fluid that surrounds the brain. The infection is usually caused by bacteria or viruses. Viral meningitis is generally less severe and resolves without treatment. Bacterial meningitis can be very severe and may result in brain damage, hearing loss, disability, and death. The two primary bacteria that cause meningitis are streptococcus pneumoniae (Pneumococcal) or Neisseria meningitides (Meningococcal). Hemophilus influenzae (H. flu) meningitis has been greatly reduced since the 1990s when the Hemophilus influenzae type b (Hib) vaccine was introduced. Symptoms may develop over several hours or 1–2 days and include high fever and chills, stiff neck, headache, photophobia (light sensitivity), vomiting, and sometimes a rash, coma, and seizures. Diagnosis is made by a spinal tap. When treatment with antibiotics is started early, the risk of dying from meningitis falls below 15 percent.

### Mode of Transmission

Meningitis is transmitted person-to-person through respiratory and throat secretions such as kissing or coughing. It may also be spread by sharing beverage containers, cigarettes, or other smoking-related paraphernalia. It is not transmitted through the air after a person infected with meningitis has left the room. Meningitis is much less contagious than the common cold or influenza.

### Incubation Period

Variable depending on the agent, usually 1–7 days.

### Infectious Period

Meningitis is infectious until the bacteria is no longer present in discharges from the nose and mouth; susceptible organisms will disappear from the nose and throat within 24 hours after appropriate treatment is started.

## College Actions

- 1. Report to your local health jurisdiction of confirmed meningococcal meningitis is immediate and mandatory.**
- 2. Referral to licensed health care provider of suspected cases is immediate and mandatory for meningitis.**
3. Obtain accurate facts from your local health jurisdiction so appropriate information can be shared with school staff and exposed students.

## Control of Spread—Bacterial Meningitis

- 1. EXCLUDE until licensed health care provider releases student.**
2. Recommend contact with a health care provider so that household or other close contacts of bacterial meningitis may receive antibiotic prophylaxis.
- 3. Risk of acquiring the disease in a normal classroom situation is typically low. Your local health jurisdiction will advise when students and staff are at risk and what action should be taken.**
4. In rare situations, certain types of meningococcal meningitis cause school epidemics, particularly in colleges. Special vaccination programs may be carried out in such circumstances.
5. Instruct students not to share items that may be contaminated with saliva such as beverage containers.
6. Clean or dispose of articles soiled with nose and throat discharges.
7. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
8. Encourage proper handwashing techniques.

## Future Prevention and Education

1. The currently available meningococcal vaccine is only protective against four strains of meningococcal bacteria (A, C, Y, W-135). It is not recommended for routine vaccination as it is not effective in children less than the age of 2 years, and because of its relatively short duration of protection. Revaccination may be considered 3–5 years after the initial dose for those persons who remain at high risk.
2. Routine meningococcal vaccination is recommended for certain high-risk groups including college freshman (particularly those living in dormitories or residence halls), persons who have certain immunosuppression such as asplenia, laboratory personnel, and travelers to countries of endemic meningococcal disease.
3. Meningococcal vaccine is recommended for use in control of serogroup C meningococcal outbreaks.
4. Pneumococcal vaccine is available to prevent invasive disease due to streptococcus pneumoniae in children.

## **Mosquito-borne Illness**

### Description

Mosquitoes are a problem because they not only deliver an itchy bite but can also spread serious diseases such as Western equine encephalitis, St. Louis encephalitis, and West Nile encephalitis. Encephalitis is an inflammation of the brain. In other countries, mosquitoes spread malaria and other diseases.

West Nile encephalitis has proven itself a public health threat. As of January 22, 2003, 3989 cases of the illness have been reported to the CDC including 259 fatalities.

West Nile encephalitis affects the central nervous system. Symptoms vary. Approximately 80 percent of people who are infected with West Nile encephalitis will not show any symptoms. Up to 20 percent of the people who become infected will display mild symptoms including fever, headache, body aches, nausea, vomiting, and sometimes swollen lymph glands or a skin rash on the chest, stomach, and back. Symptoms typically last a few days. About 1 in 150 people infected with West Nile encephalitis will develop severe illness. The severe symptoms can include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness, and paralysis. These symptoms may last several weeks and neurological effects may be permanent.

### Mode of Transmission

Generally, West Nile encephalitis is spread by the bite of an infected mosquito. Mosquitoes are West Nile encephalitis carriers that become infected when they feed on infected birds. Infected mosquitoes can then spread West Nile encephalitis to humans and other animals when they bite.

### Incubation Period

3–14 days for West Nile encephalitis.

### Infectious Period

Mosquito-borne illnesses are infectious as long as mosquitoes feed on infected birds.

## College Actions

Recommend contact with a licensed health care provider of suspected cases.

## Control of Spread

Do not touch a dead bird with bare hands. Contact your local health jurisdiction for instructions on reporting and disposing of the body.

Populations may be provided with information to

Prevent mosquito bites:

1. Make sure window and door screens are "bug tight." Repair or replace them if needed.
2. Stay indoors at dawn and dusk when mosquitoes are the most active.
3. Wear a long sleeved shirt, long pants, and a hat when going into mosquito-infested areas such as wetlands or woods.
4. Use mosquito repellent when necessary and carefully follow directions on the label, particularly with children.

Reduce mosquito habitat:

1. Empty anything outside that holds standing water such as old tires, buckets, plastic covers, and toys.
2. Change water in birdbaths, fountains, wading pools, and animal troughs weekly.
3. Recycle unused containers (bottles, cans, and buckets) that may collect water.
4. Make sure roof gutters drain properly and do not pool water.
5. Fix leaky outdoor faucets and sprinklers.
6. Drill drainage holes in tire swings so water drains out.
7. Keep children's wading pools empty and on their sides when they are not being used.

## Future Prevention and Education

Visit the CDC's West Nile encephalitis Web page for current recommendations regarding prevention and education at <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>.

## **MRSA**

### Description

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of bacteria that is resistant to certain antibiotics. These antibiotics include methicillin and other more common antibiotics such as oxacillin, penicillin and amoxicillin. Staph infections, including MRSA, occur most frequently among persons in hospitals and healthcare facilities (such as nursing homes and dialysis centers) who have weakened immune systems.

MRSA infections that occur in otherwise healthy people who have not been recently (within the past year) hospitalized or had a medical procedure (such as dialysis, surgery, catheters) are known as community-associated (CA)-MRSA infections. These infections are usually skin infections, such as abscesses, boils, and other pus-filled lesions.

### Mode of Transmission

Since *Staphylococcus aureus* colonizes the anterior nostrils or nasal passages, autoinfection is responsible for many infections that occur in a health care and community setting. Patients with purulent drainage containing or composed of pus that cannot be contained are the most common source of possible epidemic spread. Airborne transmission is rare. Fomite (inanimate objects) is also rare. Health care workers can contribute to the spread of *S. aureus* if they do not perform common hygienic behavior (i.e., washing of hands, wearing gloves).

In the outbreaks of MRSA, the environment has not played a significant role in the transmission of MRSA. MRSA is transmitted most frequently by direct skin-to-skin contact. You can protect yourself from infections by practicing good hygiene (e.g., keeping your hands clean by washing with soap and water or using an alcohol-based hand rub and showering after working out); covering any open skin area such as abrasions or cuts with a clean dry bandage; avoiding sharing personal items such as towels or razors; using a barrier (e.g., clothing or a towel) between your skin and shared equipment; and wiping surfaces of equipment before and after use.

### Incubation Period

Variable and indefinite.

## Infectious Period

As long as sores are draining. Autoinfection may continue for the period of nasal colonization.

## College Actions

Covering infections will greatly reduce the risks of surfaces becoming contaminated with MRSA. In general it is not necessary to close schools to "disinfect" them when MRSA infections occur. MRSA skin infections are transmitted primarily by skin-to-skin contact and contact with surfaces that have come into contact with someone else's infection.

### **DO NOT EXCLUDE Unless directed by a physician.**

Exclusion from school and sports activities should be reserved for those with wound drainage ("pus") that cannot be covered and contained with a clean, dry bandage and for those who cannot maintain good personal hygiene.

Usually, it should not be necessary to inform the entire school community about a single MRSA infection. **When an MRSA infection occurs within the school population consultation with the local public health authorities should be used to determine whether some or all students, faculty, and staff should be notified.**

Students and staff testing positive for MRSA in a skin lesion should be able to return to school after appropriate treatment (I.E. Antibiotic treatment and/or incision and drainage) is initiated and wound can be covered.

Refer individuals with serious skin infections to a licensed health care provider.

Any skin infection not responding to treatment within 3 days should be referred back to the health care provider.

Assist individuals to keep all skin lesions covered, if possible.

Staff/students should avoid participating in contact sports, other skin-to-skin contact, or swimming until infection is healed

## Control of Spread

You can prevent spreading staph or MRSA skin infections to others by following these steps:

1. Cover your wound. Keep wounds that are draining or have pus covered with clean, dry bandages. Follow your healthcare provider's instructions on proper care of the wound. Pus from infected wounds can contain staph and MRSA, so keeping the infection covered will help prevent the spread to others. Bandages or tape can be discarded with the regular trash.
2. Clean your hands. You, your family, and others in close contact should wash their hands frequently with soap and warm water or use an alcohol-based hand sanitizer, especially after changing the bandage or touching the infected wound.
3. Do not share personal items. Avoid sharing personal items such as towels, washcloths, razors, clothing, or uniforms that may have had contact with the infected wound or bandage. Wash sheets, towels, and clothes that become soiled with water and laundry detergent. Drying clothes in a hot dryer, rather than air-drying, also helps kill bacteria in clothes.
4. Talk to your doctor. Tell any healthcare providers who treat you that you have or had a staph or MRSA skin infection.
5. When MRSA skin infections occur, cleaning and disinfection should be performed on surfaces that are likely to contact uncovered or poorly covered infections.
6. Cleaning surfaces with detergent-based cleaners or Environmental Protection Agency (EPA)-registered disinfectants is effective at removing MRSA from the environment.
7. It is important to read the instruction labels on all cleaners to make sure they are used safely and appropriately.
8. Environmental cleaners and disinfectants should not be used to treat infections.
9. The EPA provides a list of EPA-registered products effective against MRSA: <http://epa.gov/oppad001/chemregindex.htm>

## Future Prevention and Education

### Preventing transmission of MRSA

Remember that hand sanitizer only works when used on visibly clean hands, so wash with soap and warm water as well as using hand sanitizer.

Keep all wounds clean and cover with a clean bandage or dressing until it is healed. Dispose of used bandages carefully in a closed container.

Seek care from a licensed health care professional as soon as possible if you suspect a MRSA infection. The earlier it is treated, the less likely it will spread.

Typically, infected individuals have to be treated by having the wound opened and drained or receive specific antibiotics by mouth. Treatment may not always include antibiotics.

Wash clothing and linen with hot water and laundry detergent. Dry in hot dryer.

Information on MRSA may be obtained by contacting:

Centers for Disease Control and Prevention, 1600 Clifton Rd, Atlanta, GA 30333, U.S.A

Tel: (404) 639-3311 / Public Inquiries: (404) 639-3534 / (800) 311-3435

[http://www.cdc.gov/ncidod/dhqp/ar\\_mrsa.html](http://www.cdc.gov/ncidod/dhqp/ar_mrsa.html)

Thurston County Public Health & Social Services Department

412 Lilly Rd. NE

Olympia, WA 98506-5132

(360) 786-5581

<http://www.co.thurston.wa.us/health>

## **Mumps**

### Description

Mumps is a viral illness characterized by painful inflammation of the glands that lie just above the back angle of the jaw. Involvement can be one-sided or bilateral. Other glands, including those in the floor of the mouth beneath the tongue and below the jaw, may also be involved, although less commonly. Viruses other than mumps may also cause swelling of the parotid glands. Mumps patients may have fever, headache, and mild respiratory symptoms. In post pubertal individuals, the testes may become inflamed in 15–25 percent of males and the ovaries in 5 percent of females. Very rarely sterility can result. The central nervous system may be involved, usually manifested by increased irritability, stiff neck, headache, and even convulsions in some cases. Symptoms of mumps generally resolve after 7–10 days.

### Mode of Transmission

Transmission is by direct contact with or droplet spread from the saliva of infected persons. It should be remembered that approximately one-third of all susceptible individuals exposed to mumps will not develop apparent disease but will be infectious.

### Incubation Period

16–18 days.

### Infectious Period

Mumps is infectious from 3 days before to 4 days after swelling first appears.

### College Actions

1. Report to your local health jurisdiction of mumps cases is mandatory.
2. Recommend contact with a licensed health care provider of suspected cases.

## Control of Spread

1. **EXCLUDE.** A confirmed case should be isolated until the swelling and other manifestations of the illness have subsided, about 4 days from the onset of swelling.
2. Post exposure vaccination of individuals is not clearly protective against the disease and its complications. However, its use is recommended because:
  - a. It may give protection for current exposure.
  - b. It should induce protection against subsequent exposure.
3. Instruct students not to share items that may be contaminated with saliva such as beverage containers.
4. Clean or dispose of articles soiled with nose and throat discharges.
5. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
6. Encourage proper handwashing techniques.

## Future Prevention and Education

A live, attenuated virus vaccine is available that may be given in combination with the measles and rubella vaccine (MMR) at the age of 12 months. It is required for child care and school entry in Washington State. One dose of vaccine provides excellent long-term immunity.

### Immunization Requirements, State of Washington

One dose of MMR administered on or after the age of 12 months.

#### Note

Two doses of live virus measles-containing vaccine, both given on or after the age of 12 months and at least 28 days apart, or laboratory evidence of measles immunity is required for all students at school entry (Grades 1–2 and Grades 6–12 for school year 2002–03). The requirement will move up a grade each year. School year 2006–07 will require two doses of measles-containing vaccine for all students Grades K–12.

## **Norovirus (Norwalk-like)**

### Description

Norovirus is the official name for the group of viruses previously called Norwalk-like viruses. It is an acute viral infection of the gastrointestinal system. The CDC estimates that 23 million cases of acute gastrointestinal infections are due to norovirus, and that at least 50 percent of all foodborne outbreaks of gastrointestinal infections can be attributed to noroviruses. It is characterized by nausea, vomiting, diarrhea, and abdominal cramps and can include a low-grade fever, chills, headache, muscle aches, and lethargy. There are many different strains of norovirus and people can develop the illness repeatedly when exposed to different strains of the virus. Treatment consists of supportive care, primarily fluid and electrolyte replacement.

### Mode of Transmission

Norovirus is easily spread person-to-person by hands, toys, bathroom surfaces, and contaminated food. It may also be transmitted by aerosolized vomitus to persons caring for or cleaning up after acutely ill persons.

### Incubation Period

24–48 hours, but can occur within 12 hours of exposure.

### Infectious Period

Individuals may remain infectious for up to 1 month after the onset of symptoms.

### College Actions

1. Report to your local health jurisdiction is not required unless a foodborne outbreak is suspected.
2. Exclude food handlers from work until cleared by a licensed health care provider or their local health jurisdiction.

3. Clean thoroughly any contaminated surfaces with a 1:10 percent bleach and water solution or another approved antiviral disinfecting solution. Remove any contaminated clothing or linens immediately.

### Control of Spread

1. Encourage good personal hygiene and proper handwashing techniques after going to the bathroom, before eating, and after changing diapers.
2. Disinfect surfaces where diapers are changed after each use (see Appendix VIII).

### Future Prevention and Education

1. Mechanisms of immunity to norovirus are unclear. It appears that immunity may be strain-specific and lasts only a few months. Therefore, due to the different types of noroviruses, individuals are likely to be repeatedly infected throughout their lifetimes. This may explain the high attack rates in all ages reported in outbreaks.
2. Most foodborne outbreaks of norovirus are likely to arise through direct contamination of food by a handler immediately before its consumption. Outbreaks have frequently been associated with consumption of cold foods, including various salads, sandwiches, and bakery products. Liquid items, such as salad dressing or cake icing that allow the virus to mix evenly, are often implicated as a cause of outbreaks. Food can also be contaminated at its source. Oysters from contaminated waters have been associated with widespread outbreaks of gastroenteritis. Other foods, including raspberries and salads, have been contaminated before widespread distribution and subsequently caused extensive outbreaks.
3. Waterborne outbreaks of norovirus in community settings have often been caused by sewage contamination of wells and recreational water.
4. Prevention of foodborne norovirus is based on the provision of safe food and water. Noroviruses are relatively resistant to environmental challenge. They are able to survive freezing, temperatures as high as 60° C, and have been associated with illness after being steamed in shellfish. Moreover, noroviruses can survive in up to 10 parts per million (ppm) chlorine, well in excess of levels routinely present in public water systems. Despite these features, it is likely that relatively simple measures such as correct handling of cold foods and frequent handwashing, may substantially reduce foodborne transmission of noroviruses.

## **Pertussis (Whooping Cough)**

### Description

Pertussis is a highly contagious, bacterial respiratory infection. Children under the age of 1 year are much more liable to suffer serious consequences than older children. Infection among adults is common but generally milder and is often mistaken for bronchitis.

### Mode of Transmission

Transmission of pertussis is usually spread by droplets or direct contact with an infected person.

### Incubation Period

Usually 5–10 days, rarely exceeding 21 days.

### Infectious Period

Pertussis is most infectious in the upper-respiratory state. Individuals are rarely infectious after the fourth week of the disease. Patients need to be isolated during the first 5 days of antibiotic treatment.

### College Actions

1. Report to your local health jurisdiction of cases is mandatory and immediate.
2. Recommend contact with a licensed health care provider of suspected case for diagnosis and treatment.
3. **If pertussis has been confirmed and the student is not treated with antibiotics, he/she should be excluded from school until 4 weeks after the onset of the illness or until the cough has stopped, whichever period is shorter. If treated, the student may return after 5–7 days of treatment.**

### Control of Spread

1. **EXCLUDE INFECTED STUDENT** until the fifth day of antibiotic therapy or, if not treated, until they are no longer coughing, or until 4 weeks after onset, whichever period is shorter.
2. Your local health officer will make the decision regarding treatment of school and household contacts.
3. All immunized close contacts may continue to attend school if started on prophylactic antibiotics. At the direction of your local health jurisdiction, unimmunized close contacts should be excluded from school until the infected student has been on antibiotics for 5 days.
4. Instruct students not to share items that may be contaminated with saliva such as beverage containers.
5. Clean or dispose of articles soiled with nose and throat discharges.
6. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
7. Encourage proper handwashing techniques.

### Future Prevention and Education

1. Pertussis vaccine, given along with diphtheria and tetanus toxoid (DTaP) in the recommended schedule, is an effective means of prevention.
2. Only acellular pertussis vaccine has been distributed in Washington State since 1996. Acellular preparations (DTaP) of pertussis vaccine produce comparable antibody responses but lower rates of local reactions (fever and fretfulness) at the injection site than after whole-cell diphtheria/tetanus/pertussus (DTP) vaccine.

## **Pinworms**

### Description

Pinworms are a very common condition caused by a small intestinal roundworm. Signs of pinworms include severe anal itching with disturbed sleep, restlessness, and local irritation from scratching. Sometimes vaginitis and rarely abdominal pain are attributed to pinworms. Infection is common and not related to hygiene. People from all socioeconomic and ethnic backgrounds may have pinworms. Diagnosis is made by finding adult worms in feces or in the anal region or by identifying eggs from the anal region.

### Mode of Transmission

Transmission of pinworms is spread by infective eggs carried from anus to mouth by hands, from articles of bedding or clothing to mouth, or carried in food or by dust.

### Incubation Period

The life cycle from egg to adult takes 2–6 weeks.

### Infectious Period

Pinworm eggs are infectious within a few hours after being deposited on the skin and as long as female worms with eggs are present. They can survive up to 2 weeks on clothing, bedding, or other objects. Response to specific antihelminth drugs (drugs that kill parasitic worms) is excellent.

### College Actions

1. Report to your local health jurisdiction is not necessary.
2. Recommend contact with a licensed health care provider.

3. The health care provider may educate the student regarding mode of transmission (infectious eggs carried from anus to mouth by hands, from articles of bedding or clothing to mouth, or by food or dust) and / or advise them in careful handwashing including careful cleaning of fingernails after using the bathroom and before eating.
4. Encourage good personal hygiene and proper handwashing techniques after going to the bathroom, before eating, and after changing diapers.

#### Control of Spread

1. If condition is recurrent, all members of household should be treated simultaneously.
2. Surfaces where diapers are changed must be disinfected after each use
3. Encourage proper handwashing techniques.

## **Poliomyelitis (Polio)**

### Description

Poliomyelitis (polio), formerly called infantile paralysis, is an extremely rare illness that begins with minor symptoms but may become life threatening. The initial symptoms may include fever, tiredness, gastrointestinal upset, headache, and sore throat. The disease may resolve after 24–48 hours and might be classified as “minor,” or it may progress to include marked stiffness of the neck, back, and limbs. It should be remembered that the poliovirus gains access to nerve structures and in this way could cause paralysis of any muscles, even the muscles of respiration. This made the use of iron lungs necessary when severe polio cases were seen in the past. Wild polio has been eradicated in the Americas. A single case of polio would be a public health emergency.

### Mode of Transmission

Transmission of the virus is caused by pharyngeal (throat) droplets and fecal-oral spread.

### Incubation Period

3–35 days. 7–14 days is usual for the paralytic form.

### Infectious Period

Polio is most infectious just before and after the onset of clinical symptoms. The virus persists in the throat for 1 week after the onset and in the feces for 3–6 weeks. There is no specific medical treatment for polio.

### School Actions

1. Report to your local health jurisdiction of suspected cases is immediate and mandatory.
2. **EXCLUDE CONFIRMED CASES** until released by licensed health care provider or your local health jurisdiction.
3. Public Health officials may wish to check susceptibility of contacts and recommend immunization of contacts as appropriate.

### Control of Spread

Immunization of any individual in the epidemic area who is over the age of 6 weeks and who is either unvaccinated, incompletely vaccinated, or uncertain of vaccination history.

### Future Prevention and Education

Polio vaccine is required for school and child care entry. Administration of oral (live virus) polio vaccine was discontinued in the United States in 2000.

### Immunization Requirement, State of Washington

The minimum requirement for all students is a three-dose series of polio vaccine with the third dose given on or after their fourth birthday.

## **Ringworm (Tinea)**

### Description

Ringworm is not caused by a worm, but by various types of fungi. When found in the body it is called tinea corporis; when on the scalp, tinea capitis; when in the groin, tinea cruris; and when on the feet, tinea pedis (athlete's foot). It is a very common infection.

Ringworm begins as a small, red patch or bump that spreads outward, so that each affected area takes on the appearance of a red, scaly, outer ring with a clear central area. Hair may become brittle and break off in gradually spreading areas. Itching sometimes accompanies the infection.

### Mode of Transmission

Transmission of ringworm is generally by person-to-person or contaminated article to person contact, although rarely, infected animals may be a source for scalp and body infections.

### Incubation Period

Usually 7–21 days.

### Infectious Period

Ringworm is infectious during the duration of skin or scalp lesions and while the fungus persists on contaminated materials.

### College Actions

1. Report to your local health jurisdiction is not necessary.
2. Recommend contact with a licensed health care provider for appropriate diagnosis and treatment of suspected cases.

### Control of Spread

1. The student may stay in school after treatment has been started.
2. Instruct students not to share combs, hats, towels, and/or other articles.
3. Careful disinfecting of showers, dressing rooms, and sports equipment (floor, mats, gymnasium equipment) is encouraged, as well as proper laundering of towels and clothing.
4. Request physical activity clearance from licensed health care provider before student returns to school-related physical activities.

### Future Prevention and Education

Ringworm of the body is not particularly dangerous, has no unusual long-term consequences, and can generally be treated quite effectively with locally applied preparations. A prescribed oral medication may be needed for severe or persistent cases of body ringworm and is necessary to treat all ringworm of the scalp.

## **Rubella (Three-Day Measles)**

### Description

Rubella is a relatively mild viral illness. Its importance lies not in the problems it causes for affected children, but rather in the significant congenital defects it may cause in infants whose mothers contracted rubella during the first 12 weeks of pregnancy. The first signs of the childhood illness may be swollen, tender glands, usually at the back of the neck and behind the ears; and a low-grade fever followed by a rash. The rash usually consists of pink to red isolated spots that appear first on the face then spread rapidly to the trunk, biceps, and thigh areas of the extremities with large confluent areas of flushing. The rash fades from the face and trunk in 1–2 days and spreads to the forearms, hands, and feet. Fever is slight or absent. Mild itching may occur. Rubella in adolescents and adults may cause painful or swollen joints. Because many other minor illnesses look like rubella, laboratory tests are required to confirm the diagnosis. Fifty percent of rubella cases are asymptomatic.

### Mode of Transmission

Transmission is usually from nasopharyngeal secretions, possibly from feces, urine, or blood of infected persons, or undiagnosed cases. It is also transmitted across the placenta to the fetus.

### Incubation Period

12–23 days, usually 16–18 days.

### Infectious Period

Rubella is infectious from 7 days prior to 5 days after the appearance of the rash.

### College Actions

1. Report to your local health jurisdiction of suspected cases is immediate and mandatory.
2. Recommend contact with a licensed health care provider for laboratory tests to establish diagnosis and for necessary follow-up of suspected rubella cases.

### Control of Spread

- 1. EXCLUDE STUDENT. Students may return to school 5 days after the rash appears.**
2. Instruct students not to share items that may be contaminated with saliva such as beverage containers.
3. Clean or dispose of articles soiled with nose and throat discharges.
4. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
5. Encourage proper handwashing techniques.

### Future Prevention and Education

Rubella vaccine is required for school and child care entry in Washington State. A blood test is available to identify those that lack immunity to rubella. Because of the theoretical risk to the fetus, females of childbearing age should receive vaccine only if they say they are not pregnant and are counseled not to become pregnant for 1 month after vaccination.

### Immunization Requirements, State of Washington

The minimum requirement is one dose of rubella-containing vaccine (MMR) given on or after the age of 12 months or laboratory documentation of immunity.

## **Scabies**

### Description

Scabies is a severe, itchy skin infestation caused by the mite *Sarcoptes scabiei* that burrows in the skin surface. Scabies affects persons from all socioeconomic levels without regard to age, sex, or standards of personal hygiene. Although scabies is more prominent in crowded living conditions and in homes with poor hygiene, everyone is susceptible. It is extremely common among children. The earliest symptoms of scabies are itching, especially at night. Subsequently, little red bumps, like hives, tiny bites, or pimples appear. In more advanced cases, the skin may be crusty or scaly. The female mite prefers warmer sites of the human body. The mite burrows into the outer layer of the skin in tiny red lines about half an inch long and then lays eggs. The parasite tends to be first located in the webs between the fingers or toes, around the wrist, or navel. It can also be commonly found on the backs of elbows, the folds of the armpits, the beltline and abdomen, the creases of the groin, and on the genitalia. In children younger than the age of 2 years, the eruption is generally small vesicles (blisters) and can occur additionally on the head, neck, palms, and soles. Scabies may be severe for immunocompromised persons.

### Mode of Transmission

Scabies is transmitted by skin-to-skin contact. The contact may be quite brief such as holding hands. Persons sharing a bed are also at risk. The mites can survive 3–4 days away from human skin.

### Incubation Period

Symptoms in persons without previous exposure usually do not occur until 4–6 weeks after exposure to an infected person. Persons who were previously infested are sensitized and, therefore, usually present symptoms 1–4 days after the exposure. Reinfestations are usually milder than the original episode.

### Infectious Period

1. Scabies can be transmitted as long as the person remains infested and untreated, including during the interval before symptoms develop.

2. Usually one application of a prescription anti-scabicide to the skin from head-to-toe at bedtime, left on for 8–14 hours, and then washed off the next morning, is successful treatment. A second treatment 1 week later may be recommended for some persons.

### College Actions

1. Suspect scabies in a rash that causes intense itching, especially at night.  
**Students with mild cases can be sent home at the end of their school day.**
2. Recommend contact with a licensed health care provider for diagnosis and treatment of suspected cases. **Students can be readmitted the following day after overnight treatment** with a topical anti-scabicide cream.
3. Inform students in the same classroom of the confirmed case since signs of scabies can occur as late as 1–2 months after exposure. Alert them that they may have been exposed, and tell them their health care provider can provide information on symptoms, treatment, and prevention.
4. If multiple students (10 percent or greater of class or school) are affected:
  - a. Seek assistance from your local health jurisdiction in controlling the outbreak.
  - b. Inform faculty, staff, and students of the outbreak.

### Control of Spread

A prescribed topical medication is recommended for treatment.

### Future Prevention and Education

1. Scabies is widespread and transmission usually occurs through prolonged, close personal contact. Education about its symptoms and treatment may help those at risk and eliminate spread. It is not serious except that it causes severe itching and secondary infection from scratching. Scabies in students, like lice and pinworms, does not necessarily indicate poor hygiene.
2. If repeated infections occur despite proper treatment, an investigation for unrecognized cases among companions or household members should be undertaken. This should be done in consultation with your local health jurisdiction. The most common cause of treatment failure is inadequate treatment of close personal contacts. All family members should receive prophylactic treatment.

Because the lesions are the result of a hypersensitive reaction to the mite, itching may continue for 4–6 weeks despite successful treatment. Contact with the licensed health care provider for additional comfort measures may be warranted. More prescriptive scabicide treatment will not relieve the post scabies itch.

Do not attempt to treat scabies with home remedies. Successful eradication includes:

1. Treating all exposed household members at the same time to prevent reinfestation.
2. Applying medication appropriately.
3. Washing all personal items. Bedding and clothing worn next to the skin during the 4 days before initiation of therapy should be laundered in a washing machine with hot water and dried using a hot cycle. The mites do not survive more than 3– 4 days without skin contact.
4. Placing items you do not wish to launder in the dryer on the hot cycle for 30 minutes.
5. Dry-cleaning items.
6. Placing items in plastic bags and storing them in the garage for 2 weeks. If the mites do not get a meal within 1 week they will die.
7. Vacuuming the entire house and discarding the used bag. Environmental disinfectants are unnecessary and unwarranted.

Note

Pets do not need to be treated.

## **Sexually Transmitted Diseases (STD)**

Sexually transmitted diseases (STDs) are diseases of various causes that can be transmitted by sexual activity. The STDs that are of the greatest concern include HIV/AIDS, chlamydia, syphilis, genital warts, herpes, non-gonococcal urethritis (NGU), gonorrhea, vaginitis, and hepatitis B. These diseases occur commonly in persons between the ages of 15–29 years. The number of diseases listed in the sexually transmitted category has climbed sharply in recent years. New tests indicate that an emphasis on symptoms is out of date. Screening for asymptomatic infection is important. Consider child sexual abuse when gonorrhea is present in a student who is not sexually active. Call local child protective services.

### *Chlamydia*

#### Description

Chlamydia is a bacterium that causes infection very similar to gonorrhea. In males, pain on urination and an opaque discharge from the urethra is common with at least 50 percent having no symptoms. In females, 70–90 percent are without symptoms, with the remainder experiencing mucopurulent cervicitis (inflammation of the cervix). If left untreated, complications may occur, including pelvic inflammatory disease in females and epididymitis (inflammation of the testes) in males. This may eventually result in infertility for both sexes.

#### Mode of Transmission

Chlamydia is transmitted by sexual activity.

#### Incubation Period

1–30 days, usually 2–10 days.

#### Infectious Period

Chlamydia may extend for months in untreated cases, especially in asymptomatic cases. Treatment with current CDC-recommended antibiotics ends infectiousness within days.

### College Actions

1. Report to your local health jurisdiction is mandatory.
2. Recommend contact with a licensed health care provider or public health clinic for diagnosis and appropriate therapy. Referral to public health clinic may be made and treatment may be given without notification to parent/guardian if a student of the age of 14 years or older so requests (see RCW 70.24.110).
3. Report of suspected child abuse cases is mandatory.
4. Maintain and enforce confidentiality for the student.

### Control of Spread

1. Control of spread involves an interview with the patient and tracing of sexual contacts by public health personnel. Notification of public health authorities as soon as possible is essential. Rescreening 3–4 months after completion of treatment is recommended.
2. Middle school and high school students need accurate information about STDs, their causes, and treatment. The symptomless nature of this and certain other STDs should be stressed as well as the sites where treatment can be obtained.

### *Gonorrhea (Clap, Strain, Dose)*

#### Description

Gonorrhea genital infections differ somewhat in presentation in males and females. In males, pain on urination and purulent (pus-like) discharge from the urethra usually occurs 2–8 days after exposure. Up to 20 percent of males have no symptoms. In females, gonorrhea may show up as pain on urination or vaginal discharge. Approximately 50 percent of infected women have no symptoms. Infection can spread to the pelvic areas and even to the joints, heart, brain, and other organs in both males and females. Coexisting chlamydial infection and potential pelvic inflammatory disease should be a concern, along with pharyngeal (throat) and anorectal infections.

### Mode of Transmission

Gonorrhea is transmitted by sexual contact.

### Incubation Period

1–30 days, usually 2–10 days.

### Infectious Period

Gonorrhea may extend for months in untreated cases, especially in asymptomatic cases. Treatment with current CDC-recommended antibiotics ends infectiousness within days.

### College Actions

1. Report to your local health jurisdiction is mandatory.
2. Recommend contact with a licensed health care provider or public health clinic for diagnosis and appropriate therapy. Referral to public health clinic may be made and treatment may be given without notification of parent/guardian if a student of the age of 14 years or older so requests (see RCW 70.24.110).
3. Report of suspected child abuse cases is mandatory.
4. Maintain and enforce confidentiality for the student.

### Control of Spread

1. Control of spread involves an interview with the patient and tracing of sexual contacts by public health personnel. Notification of public health authorities as soon as possible is essential.
2. **No school exclusion is necessary.** Patient should receive treatment as soon as diagnosis is confirmed.
3. Report of suspected child abuse cases is mandatory. Consider child sexual abuse when gonorrhea is present in a student who is not sexually active.

### Future Prevention and Education

1. Middle school and high school students need accurate information about STDs, their symptoms, causes, treatment, and where treatment can be obtained. The need for referral for interviewing and treating all contacts must be stressed.
2. Antibiotic resistant strains of gonorrhea may increase the risk of spreading this infection.

### *Herpes Simplex Virus, Genital Area*

#### Description

Genital herpes is usually caused by Type 2 herpes simplex virus (HSV), though Type 1 infection in the genital area accounts for 30 percent of infections. As with oral infections, this is a recurrent, life-long, viral infection and is asymptomatic or not recognized in at least two-thirds of those infected. New tests, including serologies, enhance diagnosis. Very large national studies indicate that one-fifth of United States residents over the age of 12 years have antibodies to Type 2 HSV. Lesions are most infectious if fluid-filled vesicles (blisters) are present. Infection can be severe in the newborn.

Genital lesions pose no risk to others unless there is direct contact with infected lesions. Genital herpes infections, due to either Type 1 or Type 2 virus, can be sexually transmitted. It is not acquired from nonsexual sources or objects such as toilet seats.

#### Mode of Transmission

Both Types 1 and 2 HSV are transmitted by direct contact with infected skin and secretions during periods of asymptomatic or symptomatic viral shedding. Sores need not be present. Transmission to the newborn occurs most commonly at delivery.

#### Incubation Period

2–20 days.

### Infectious Period

There is a life-long potential for spread of infection. Skin lesions are infectious until firmly crusted over and healed. The virus can be shed from the site of infection at any time. Sores need not be present. Intermittent or suppressive therapy with specific antivirals may alleviate outbreaks and viral shedding.

### College Actions

1. Report to your local health jurisdiction is mandatory for initial (primary) genital infection.
2. Report of suspected cases of child abuse is mandatory.
3. Provide education and counseling regarding transmission of disease, recurrence potential, and recommended prevention practices to prevent spread.
4. Wear gloves if direct contact with lesions is necessary such as with diapering.
5. Maintain and enforce confidentiality for the student.

### *Non-Gonococcal Urethritis (NGU)*

#### Description

Non-gonococcal urethritis (NGU) is a condition that is caused by a variety of bacteria. In males it is more common than gonorrhea. While chlamydia is the most frequent isolated agent, other agents are involved in a significant number of cases. *Ureaplasma urealyticum*, *Trichomonas vaginalis*, and herpes cause approximately 10–15 percent of NGU cases.

Symptoms are very similar to gonorrhea, with pain and a pus-like to mucous-like discharge from the urethra. Many infected persons have no symptoms. Diagnosis is based on symptoms, laboratory studies, and negative cultures for gonorrhea.

#### Mode of Transmission

NGU is transmitted by sexual contact.

### Incubation Period

Generally 2–21 days or more.

### Infectious Period

NGU is infectious for the duration of bacterial infection. Viral causes such as herpes, may mean long-term infectiousness potential.

### College Actions

1. Recommend contact with a licensed health care provider or public health clinic for diagnosis and appropriate therapy. Referral to clinic may be made and treatment may be given without notification of parent/guardian if a student of the age of 14 years or older so requests (see RCW 70.24.110).
2. Report of suspected child sexual abuse cases is mandatory.
3. Maintain and enforce confidentiality for the student.

### Control of Spread

1. Control of spread involves an interview with the patient and referral of sexual contacts for medical examination and treatment. Schools are required to cooperate with their local health jurisdiction staff in the process of investigation.
2. Recurrent NGU may be due to lack of compliance with treatment, failure to treat sexual partners, or reinfection.

## *Syphilis*

### Description

Syphilis is an acute and chronic, potentially life-threatening disease caused by a spirochete (bacteria). Infection is characterized first by a local sore, then a secondary rash, followed by a period of latency (no symptoms), and much later by possible involvement of the nervous system, heart, skin, and bone. The most distinctive early sign is called a chancre (a shallow, painless ulcer with a firm border that is usually located on genital surfaces, but possibly on other areas of the body). Within 1–5 weeks (even without treatment) the chancre will usually disappear. A skin rash and/or patches in the throat may then appear and may last 2–6 weeks. At this secondary stage, blood tests for syphilis are always positive (unlike the primary stage that can have negative serologic tests). A period of latency then occurs. Patients may remain asymptomatic throughout life or may progress to the late destructive stages of the disease. In an untreated female, syphilis may be transmitted to a fetus regardless of the stage of the disease.

### Mode of Transmission

With the exception of congenital infection, syphilis is transmitted through direct contact with an infectious sore or rash occurring in primary and secondary stages, typically by sexual contact.

### Incubation Period

10–90 days, usually 21 days.

### Infectious Period

Appropriate antibiotic treatment ends infectiousness within 24 hours. Isolation of patients from school is not required.

### College Actions

1. Report to your local health jurisdiction is mandatory.
2. Recommend contact with a licensed health care provider or public health clinic for diagnosis and appropriate treatment. Referral to clinic may be done and treatment may be given without notification of parent/guardian if a student of the age of 14 years or older so requests (see RCW 70.24.110).
3. Maintain and enforce confidentiality for the student.

### Control of Spread

1. Control of spread involves an interview with the patient and tracing of all sexual contacts by public health officials for medical examination and treatment. Schools are required to cooperate with their local health jurisdiction staff in the process of investigation.
2. Adequate treatment will limit spread from the primary site to other organs and from one individual to another.

### Future Prevention and Education

No vaccine is available. Simultaneous infection with syphilis and other STDs is common. The untreated disease may become a very significant health problem in the years ahead. Congenital syphilis such as the infection of a newborn with syphilis contracted from the mother, is a serious and unnecessary tragedy since this disease can be diagnosed and treated effectively.

## *Vaginitis*

### Description

Vaginitis is an inflammation of the vagina and is considered the most common infection of the female genital organs.

The most prevalent types of vaginitis are trichomoniasis (trich), candidiasis (yeast), and bacterial vaginosis (*Gardnerella vaginitis*, nonspecific vaginitis). Symptoms include abnormal vaginal discharge, itching, burning, and vaginal odor. Diagnosis is confirmed by laboratory smear, culture, or other test.

### Mode of Transmission

Vaginal infections may be transmitted by intimate sexual contact but symptoms also may originate from excessive douching, use of birth control pills, certain antibiotics, and other sources such as allergic reactions to vaginal products.

### Incubation Period

Variable depending on the type of vaginitis.

### Infectious Period

Vaginitis caused by microorganisms is infectious for the duration of infection.

### College Actions

1. Report to your local health jurisdiction is not required.
2. Recommend contact with a licensed health care provider or public health clinic for diagnosis and appropriate therapy.
3. Report of suspected child abuse cases is mandatory.
4. Maintain and enforce confidentiality for the student.

### Control of Spread

Although the male is seldom symptomatic with these infections, control of spread and reinfection usually involves concurrent referral of male sexual contacts for medical examination and treatment if the diagnosis is trichomoniasis. Only in this way can the female partner avoid reinfection once therapy is completed.

### Future Prevention and Education

1. For confidential information about STDs, call the national STD Hotline at 1-800227-8922 or choose the STD option of Washington State's AIDS Hotline at 1800-272-2437.

## **Smallpox**

### Description

There has not been a case of smallpox disease in the United States since 1949. The last case of wild-virus smallpox in the world occurred in 1977 in Somalia. A single case of smallpox would be a public health emergency.

Smallpox is an acute infectious viral disease characterized by sudden onset of fever greater than 101°F, fatigue, headache, muscle pain, nausea, vomiting, and backache for 1–4 days before the onset of rash. Lesions begin as raised red spots (papules) and become vesicles (blisters) filled with fluid. Unlike chickenpox, lesions are at the same stage of development at the same time no matter where they are on the body. Crusts begin to form in about 14 days and begin to separate during the third week.

### Mode of Transmission

Most transmission of smallpox results from direct face-to-face contact with an infected person, usually within a distance of 6 feet, from physical contact with a person with smallpox, or with contaminated articles.

### Incubation Period

7–19 days, usually 12 days.

### Infectious Period

Lesions are infectious until the dry crusts have separated. A person with smallpox is sometimes contagious with onset of fever, but the person becomes most contagious with the onset of rash.

### College Actions

1. Report to your local health jurisdiction by telephone is mandatory and must be immediate.
2. Recommend contact with a licensed health care provider of any suspected cases.

3. Refer all close contacts for vaccination within 4 days. This would be accomplished with direction from your local health jurisdiction.

### Control of Spread

1. Only persons vaccinated for smallpox should examine a potential case.
2. Use gloves for any contact with dressings or with articles soiled with fluid from lesions.
3. Dispose of all dressings in biohazard bags or disinfect with 1:10 bleach and water solution.
4. **Exclude confirmed cases from school until all crusts have separated.**
5. Maintain respiratory isolation of the case.

### Future Prevention and Education

1. In the event of an intentional release of smallpox virus, vaccination would be recommended for those exposed to the initial release, contacts of people with smallpox, and others at risk of exposure.
2. Vaccination of contacts within 4 days of exposure is protective.  
In order for school nurses to stay informed on breaking issues related to smallpox, SARS, and bioterrorism diseases and conditions, the following Web sites are recommended:

The Washington State Department of Health Web site: <http://www.doh.wa.gov>.

The Clinician's Biodefense Network, a free electronic communication system for health professionals that is managed and operated by the Center for Civilian Biodefense Strategies at Johns Hopkins University:

[http://www.hopkinscbn.org/dmz/about\\_network.html](http://www.hopkinscbn.org/dmz/about_network.html). This site includes information on smallpox vaccination and links to CDC for updates. Registration is free.

The latest SARS information from the CDC: <http://www.cdc.gov/ncidod/sars/>. Health topics A to Z from the CDC: <http://www.cdc.gov/health/default.htm>.

The latest information for clinicians and the public on smallpox:

<http://www.bt.cdc.gov/agent/smallpox/index.asp>. This site includes question and answer sheets in languages other than English.

The US Army Medical Research Institute of Infectious Diseases Web site:  
<http://www.usamriid.army.mil/education/index.html>. This site includes updates, links,  
and education options along with general information.

The Harborview Medical Center Web site provides background material for clinicians  
dealing with families from other countries including traumatic stress related to conflicts  
in the United States and abroad: <http://ethnomed.org/>.

## **Streptococcal Sore Throat and Scarlet Fever**

### Description

Streptococcal sore throat is an acute bacterial infection characterized by sore throat, fever, large tonsils with pus on them, or an inflamed pharynx (throat) and tender nodes in the neck. Streptococcal sore throat can occur with very few symptoms. All sore throats resembling strep throat are not due to strep, for example, infectious mononucleosis can cause a similar sore throat.

Scarlet fever is the combination of a streptococcal sore throat and a skin rash caused by a toxin produced by certain strains of the strep organism. The rash usually appears on the neck, chest, groin, and axilla (armpits). It usually does not involve the face. Characteristically, it spares the area around the mouth and inside of the elbow. Peeling of the skin, especially of the fingers and toes, may follow the rash. Untreated streptococcal infections can lead to serious complications (rheumatic fever and kidney disease [glomerulonephritis]).

Necrotizing fasciitis (flesh-eating bacteria) is caused by Group A strep; the same bacteria that causes strep throat and impetigo. Unlike strep throat and impetigo, which are common and easy to treat, necrotizing fasciitis is very rare and more difficult to treat. The signs and symptoms are fever with severe pain, swelling, and redness at an open wound site. As with all unidentified rashes, especially those accompanied by fever or illness, make referral to a licensed health care provider. Treatment is early antibiotic therapy. Prevention is practicing proper handwashing techniques and keeping all wounds clean.

### Mode of Transmission

Streptococcal infection is usually transmitted by airborne droplets though it can be foodborne. Necrotizing fasciitis (flesh-eating bacteria) is a rare infection (affecting 600 persons in the United States in 1999) that is spread through direct contact with infected persons through an open sore or wound on the skin.

### Incubation Period

From 2–5 days.

### Infectious Period

Streptococcal disease is most infectious in the acute phase. Untreated, it may be infectious for several weeks. However, if treated with antibiotics, the infectious period can last less than 24 hours. Some individuals can remain carriers for prolonged periods.

### College Actions

1. Report to your local health jurisdiction of all localized outbreaks is mandatory.
2. Recommend contact with a health care provider of students with a symptomatic sore throat and/or unexplained fever.

### Control of Spread

**Symptomatic students with positive throat cultures should be excluded until at least 24 hours after antimicrobial treatment is initiated.** Students should be able to return to school after 24 hours of appropriate treatment, when they have no fever, and when physically well enough.

1. Symptomatic students with sore throat and fever should be cultured and, if culture-positive, treated appropriately by a licensed health care provider.
2. When throat cultures are performed on a cluster of students to check for strep, there will almost always be some who have a positive test but are without any symptoms. These students need not be excluded from school nor do they require treatment.
3. Epidemic strep infection with significant increases in numbers of sore throats or increases above normal in school absenteeism (above 10 percent) should be referred to your local health jurisdiction for epidemiologic investigation.
4. The culturing of asymptomatic family contacts of a strep case is not considered high priority. Some licensed health care providers will wish to treat these contacts while some will observe for a period of time before treating.
5. No follow-up throat culture is necessary in an otherwise healthy student if that student completed adequate antibiotic treatment. Approximately 10–20 percent of students may still carry streptococci in their throats.
6. No vaccines are available for general use at this time to prevent strep throat.

7. Instruct students not to share items that may be contaminated with saliva such as beverage containers.

8. Clean or dispose of articles soiled with nose and throat discharges.

9. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.

10. Encourage proper handwashing techniques.

### Future Prevention and Education

1. As with all antibiotic prescriptions, the student should be encouraged to take the full course of prescribed treatment, even if the symptoms disappear before all of the medication is used up. Antibiotics are drugs that fight infections caused by bacteria. Years of prescribing antibiotics for nonbacterial infections have promoted the development of antibiotic-resistant bacteria. Antibiotic resistance occurs when bacteria change in some way that reduces or eliminates the effectiveness of drugs designed to cure infections. The bacteria survive and continue to multiply causing more harm. Widespread use of antibiotics promotes the spread of antibiotic resistance. Antibiotics are only effective against bacterial infections not viral infections such as the common cold, most sore throats, and influenza.

2. Routine classroom or school culture surveys to find strep carriers are not justified unless local public health officials determine an unusual prevalence of streptococcal disease or its complications (rheumatic fever and kidney disease [glomerulonephritis]).

## **Tetanus (Lockjaw)**

### Description

Tetanus is a very rare bacterial disease. Tetanus growth in a wound produces a toxin that can cause localized spasm and pain in the muscles at the site of injury, or severe generalized muscle spasms most marked in the jaw and neck, generalized pain, even seizures, and death. Tetanus has not been reported in the United States in individuals with adequate primary immunization.

### Mode of Transmission

Transmission is through contamination of a wound by soil, dust, water, or articles, especially those that have been contaminated with animal feces or manure. The entry wound may or may not be apparent. Deep puncture wounds are a particular risk.

### Incubation Period

3–21 days, usually 8 days.

### Infectious Period

None.

### College Actions

1. Provide basic first aid immediately if possible, washing the wound thoroughly with soap and water.
2. Recommend contact with a licensed health care provider for evaluation of the wound for additional medical care if needed.
3. Recommend contact with a licensed health care provider for tetanus booster, if needed.

### Future Prevention and Education

Surveillance and education to ensure adequate immunization levels is essential. Tetanus vaccine is required for school entry. Persons with completed childhood schedules of immunization should repeat adult tetanus/diphtheria (Td) every 10 years for a lifetime.

## **Tuberculosis (TB)**

### Description

Tuberculosis (TB) is a chronic bacterial disease caused by *Mycobacterium tuberculosis* that may affect any part of the body but most commonly attacks the lungs. In children under the age of 15 years, TB frequently settles in other high oxygen-tension areas of the body (bones, joints, brain, spinal tissue, and lymph nodes). The initial infection with TB is systemic and silent, causing no noticeable symptoms. In most healthy children and adults, initial infection does not immediately develop into disease and the individual is not infectious. This condition is known as latent TB infection. Infants, however, are particularly susceptible to rapidly developing disease at the time of initial infection.

### Mode of Transmission

Transmission is generally from the inhalation of droplets expelled from a person with pulmonary disease by sneezing, coughing, and even talking. The bacteria are spread through airborne transmission from diseased to susceptible individuals.

### Incubation Period

Variable, about 2–10 weeks. From the time the TB bacilli enter the body and begin the infection process, it may take 2–10 weeks to develop a significant or positive skin test using a Purified Protein Derivative (PPD) solution. Most cases of untreated infection (90 percent) become dormant and never progress to active disease. This percentage is notably lower in young children.

### Infectious Period

Students with latent TB infection or uncomplicated primary TB are noninfectious and may remain in school or play groups as long as their general health is good. When the TB lesions have broken down in the lungs and have become infectious, infectiousness persists as long as living bacteria are discharged through the bronchi. Specific drug treatment will diminish the infectiousness within weeks. Your local health jurisdiction staff will advise when treated student or staff members may return to school.

## Treatment

All individuals who react significantly to the PPD skin test should have an initial chest x-ray to rule out the presence of any active pulmonary disease process. Most infected individuals with latent TB infection will benefit from preventive antibiotic therapy. All diseased individuals must be treated with a minimum of four antituberculous antibiotics for a minimum of 6 months. Your local health jurisdiction TB control office must be consulted regarding specifics of individual cases.

## College Actions

1. Report to your local health jurisdiction for suspected or known cases is mandatory.
2. Recommend contact with a licensed health care provider of any student identified with TB symptoms for TB assessment. Use of the student's existing licensed health care provider is preferable. Consult with your local health jurisdiction as needed.
3. Assist your local health jurisdiction with contact investigations when an active TB case has been identified in the school. Assist your local health jurisdiction in tuberculin testing of school contacts when indicated.
4. Assist staff to dispel anxiety related to noninfectious cases. Promote understanding within the student and faculty populations regarding TB disease versus TB infection. Consult with your local health jurisdiction TB program for assistance.
5. Do not report positive skin tests to your local health jurisdiction. Do not exclude students because of a positive skin test reaction.

## Control of Spread

1. Active cases must be under treatment with anti-TB drugs.
2. **EXCLUDE. Local health officials must clear treated individuals for return to school.**
3. Recent skin test converters should have a chest x-ray and medical consultation regarding indication for TB-preventive medication.
4. Students without symptoms are not excluded from school on the basis of a positive skin test indicating latent TB infection alone.
5. Instruct students not to share items that may be contaminated with saliva such as beverage containers.

6. Clean or dispose of articles soiled with nose and throat discharges.
7. Cover mouth with tissue when coughing or sneezing. If no tissue is available, encourage students to “catch your cold in your elbow” by covering their mouth and nose with the crook of their arm and coughing or sneezing into their shirt or coat sleeve.
8. Encourage proper handwashing techniques.

#### Future Prevention and Education

1. No immunization is recommended in the United States. In some countries Bacillus Calmette-Guerin (BCG) vaccine is given. It is not recommended in countries like the United States where the incidence of TB is low.
2. Routine skin testing of students is no longer recommended in Washington State. However, in specific situations or populations, the risk of exposure may be greater than normal (recent studies have shown a higher prevalence of TB in newly-arrived immigrants). In such cases, schools should consult with their local health jurisdictions.
3. Since TB is a potentially serious disease with special problems and concerns relating to its historical significance in the United States, questions should be directed to your local health jurisdiction.

## **Warts (Verrucae)**

### Description

Warts are caused by more than 125 viral types that are the source of skin-colored growths on exposed areas of the skin and mucous membranes. Warts are usually self limited. The appearance depends on the part of the body affected. They may be smooth and flat (as plantar warts on the soles of the feet), raised (as on fingers, knees, and hands), or elongated (as on face and neck). Warts usually do not hurt, but occasionally can be very painful especially if secondary infections occur as a result of scratching. New warts may occur in an individual from picking or scratching the initial wart.

### Mode of Transmission

Warts are usually transmitted by direct skin-to-skin contact with a person who is shedding the virus. The transmitter may or may not have symptoms. Contaminated floors and other objects may cause spread of the wart virus. Genital warts are usually sexually transmitted.

### Incubation Period

Variable, ranging from 1–8 months but may be as long as several years.

### Infectious Period

The infectious period of warts is unknown. The virus is shed at least as long as visible lesions persist and shedding continues intermittently when warts are not present.

### College Actions

1. Recommend contact with a licensed health care provider when warts are extensive and bothersome to the student. Most warts will disappear spontaneously. Warts may fail to disappear even with repeated treatment and they may recur after an apparent cure. They may be treated with locally applied chemicals, surgery, cautery, or freezing with liquid nitrogen.

2. Clean floors, mats, and other equipment if a large number of cases of plantar warts are present. Students with plantar warts should be urged to wear thongs for showering or be excused from showering until warts disappear.

3. Report of suspected child abuse cases is mandatory. Genital warts in children may be the result of sexual abuse.

### Future Prevention and Education

Inform students and staff that transmission may be by direct person-to-person contact.

## **Guidelines for Handling Body Fluids in Schools**

The following guidelines are meant to provide simple and effective precautions against transmission of disease for all persons potentially exposed to the blood or body fluids of any student. No distinction is made between body fluids from students with a known disease or those from students without symptoms or with an undiagnosed disease.

### **Universal Precautions**

"Universal precautions" or "universal blood and body fluid precautions" refer to the handling of body fluids from all individuals, not just precautions recommended for those known to be infected with a bloodborne pathogen. Universal precautions were written for staff in health care settings and public safety workers, however, contact by school staff with blood and body fluids is increasingly more likely. The precautions focus on the prevention of transmission of immunodeficiency (HIV) viruses. Potential exposure to bloodborne pathogens is defined as contact with blood or other potentially infectious materials (semen, vaginal secretions, and the fluids that surround the heart, lungs, joints, brain, and unborn child) through percutaneous inoculation (needlesticks with contaminated needles) or contact with an open wound, nonintact skin, or mucous membrane during the performance of normal job duties. Blood is the single most important source of HIV, viral hepatitis B (HBV), viral hepatitis C (HCV), and other bloodborne pathogens in the occupational setting. Infection control efforts for HIV, HBV, HCV, and other bloodborne pathogens must focus on preventing exposures to blood as well as on delivery of HBV immunization to employees with reasonable potential of exposure.

Universal precautions require the use of protective barriers whenever there is a reasonable likelihood of exposure to blood or other body fluids. Protective barriers reduce the risk of exposure of the health care worker's skin or mucous membranes to potentially infective materials. For universal precautions, protective barriers reduce the risk of exposure to blood, body fluids containing visible blood, and other fluids. Examples of protective barriers include gloves, gowns, masks, and protective eyewear. Gloves should reduce the incidence of contamination of hands but they cannot prevent penetrating injuries due to needles or other sharp instruments. Masks and protective eyewear or face shields should reduce the incidence of contamination of mucous membranes of the mouth, nose, and eyes.

-Morbidity and Mortality Weekly Report, June 24, 1988, Vol. 37, No. 27.

Rarely, if at all, would precautions beyond the use of gloves and provisions of ventilation

devices to minimize the need for emergency mouth-to-mouth resuscitation be indicated in a school setting.

Universal precautions are intended to supplement rather than replace recommendations for routine infection control such as handwashing and using gloves to prevent contamination of hands as described in the sections that follow.

#### Does Contact with Body Fluids Present a Risk?

The body fluids of all persons should be considered to contain potentially infectious agents (germs). The term “body fluids” includes blood, semen, vaginal secretions, drainage from scrapes and cuts, feces, urine, vomitus, respiratory secretions (nasal discharge), and saliva. Contact with body fluids presents a risk of infection with a variety of microorganisms. In general, the risk is very low and dependent on a variety of factors, including the type of fluid with which contact is made and the type of contact made with it.

Table 1 provides examples of particular infectious organisms that may occur in body fluids of children and the respective transmission concerns. Individuals who have no symptoms of illness may carry germs. These individuals may be at various stages of infection (incubating disease, mildly infected without symptoms, or chronic carriers of certain infectious agents including HIV and hepatitis viruses). In fact, transmission of infectious diseases is more likely to occur from contact with infected body fluids of unrecognized carriers than from contact with fluids from recognized individuals because simple precautions are not always carried out. It is for this reason that universal precautions should be used when there is exposure to blood, semen, vaginal secretions, or any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

#### Use of Gloves

When possible, direct skin contact with body fluids should be avoided. Disposable gloves should be available in the offices of coaches, custodians, nurses, principals, and staff in school settings such as the gymnasium, play fields, and health room where contact with blood or other body fluids is likely to occur. All other personnel should have access to first aid supplies that include gloves and other barriers. Gloves should be worn when direct hand contact with body fluids is anticipated (treating bloody noses, handling clothes soiled by incontinence, cleaning small spills by hand). Disposable (single use) gloves such as surgical or examination gloves, either vinyl or latex, shall be replaced as soon as possible when contaminated or immediately if they are torn, punctured, or when their ability to function as a barrier is compromised. Hands must be washed afterward. Gloves used for this purpose should be put in a plastic bag or lined trashcan, secured, and disposed of daily. Because of the increasing incidence of allergic reactions to latex in children having multiple medical procedures and in health care staff who wear latex gloves frequently, at the earliest symptoms of an allergic response to latex gloves, their use should be discontinued and medical advice and care

sought. Parent/guardian requests for staff to use vinyl gloves when providing nursing care to students such as those requiring clean, intermittent catheterization, must be honored. (See NIOSH Alert: Preventing Allergic Reactions to Natural Rubber Latex in the Workplace, Department of Health and Human Services Publication No. 97-135.)

Utility gloves may be cleaned and disinfected for reuse if they show no signs of deterioration. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

### Housekeeping Practices

The employer shall ensure that the worksite is maintained in a clean and sanitary condition and shall determine and implement an appropriate cleaning schedule for rooms where body fluids are present. Schedules shall be as frequent as necessary depending on the area of the school, the type of surface to be cleaned, and the amount and type of soil present. Housekeeping workers must wear appropriate personal protective equipment including general purpose utility gloves during all cleaning of blood or other potentially infectious materials.

Initial cleanup of blood or other potentially infectious materials shall be followed with the use of a United States Environmental Protection Agency (EPA) approved hospital disinfectant that is either tuberculosis (TB) or HBV effective. A solution of 5.25 percent sodium hypochlorite (household bleach) diluted 1:10 with water may also be used. Equipment contaminated with blood or other potentially infectious materials shall be checked routinely and decontaminated, if possible, prior to servicing or shipping. Equipment that cannot be effectively disinfected must be labeled with the international biohazard symbol and contaminated parts documented. Double-bagging prior to handling, storing, and/or transporting infectious waste is necessary if the outside of a bag is contaminated with blood or other potentially infectious materials.

### Contaminated Sharps

Broken glassware or discarded needles must not be picked up directly with the hands. Cleanup must be accomplished using mechanical means such as a brush and dustpan, tongs, or forceps. Contaminated, reusable sharps must not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

Contaminated sharps must be discarded immediately in containers that are closable, puncture resistant, leak proof on sides and bottom, and labeled or color coded. During use, containers for contaminated sharps must be easily accessible to personnel and located as close as possible to the immediate area where sharps are used (health

rooms, science classrooms). The containers must be maintained upright throughout use, replaced routinely, and not be allowed to overfill. When moving containers of contaminated sharps from the area of use, they must be closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping. They must be placed in a secondary container if leakage is possible. The secondary container must be closable, constructed to contain all contents, and prevent leakage during handling, storage, transport, or shipping. The secondary container must also be labeled and color coded. Containers for contaminated reusable sharps must meet all of the qualifications for disposable containers except that they do not need to be closeable, since devices will be removed from these containers.

Contaminated needles and other contaminated sharps must not be bent, recapped, or removed. Shearing or breaking of contaminated needles is prohibited.

Puncture resistant sharps containers should be provided if contaminated sharps (needles) are in the workplace. Disposal of these containers depends on local waste management programs.

Check with the environmental health office of your local health jurisdiction for any additional local infectious waste disposal requirements and for information in the absence of a local infectious waste management program (see Local Health Jurisdictions).

Thurston County Public Health & Social Services Department  
412 Lilly Rd. NE  
Olympia, WA 98506-5132  
(360) 786-5581  
<http://www.co.thurston.wa.us/health>

At the state level, additional information can be obtained from the Washington State Department of Health School Environmental Health and Safety Program at 360-2363072 or the Infectious Disease and Reproductive Health Program at 360-236-3444.

#### What Should Be Done If Direct Skin Contact Occurs?

In many instances, unanticipated skin contact with body fluids may occur in situations where gloves may not be immediately available (when wiping a runny nose, applying pressure to a bleeding injury outside of the classroom, helping a student in the bathroom). Gloves need not be worn when feeding students or when wiping saliva from skin unless blood is present. In these instances, hands and other affected skin areas of all exposed persons should be routinely washed with soap and water after direct contact has ceased. As much as possible, have the student provide direct care for the wound (applying pressure, washing).

Reminder: Unbroken skin is an excellent barrier to infectious agents. Staff with sores or cuts on their hands (nonintact skin) having contact with blood or body fluids should always wear gloves and double glove if lesions are extensive. Always wash hands with soap and water after removing gloves. If contact with contaminated body fluids to nonintact skin or mucous membranes does occur, the staff member should follow the school's policy for post exposure management and seek medical evaluation of the need for post exposure prophylaxis.

### How Should Spilled Body Fluids Be Removed From the Environment?

Most schools have standard procedures already in place for removing body fluids (vomitus). These procedures should be reviewed to determine whether appropriate cleaning and disinfection steps have been included. Many schools stock sanitary absorbent agents specifically intended for cleaning body fluid spills. Disposable gloves should be worn when using these agents. The dry material is applied to the area, left for a few minutes to absorb the fluid, and then vacuumed or swept up. An appropriate disinfectant is then applied to the area and allowed to remain wet for at least the minimum time specified by the manufacturer. The vacuum bag or sweepings should be disposed of in a plastic bag. The broom and dustpan should be rinsed in a disinfectant. No special handling is required for vacuuming equipment.

### Handwashing Procedures

Proper handwashing requires the use of soap and water and vigorous washing under a stream of temperate (warm) water for approximately 10 seconds. Soap suspends easily removable soil and microorganisms allowing them to be washed off. Running water is necessary to carry away dirt and debris. Rinse under running water. Use paper towels to thoroughly dry hands. Handwashing posters suitable for students are available from the Washington State Department of Health Warehouse by faxing 360-664-2929.

Facilities must provide an adequate supply of running potable water, soap, and single-use towels or hot air drying machines. When provision of handwashing facilities is not feasible, the employer must provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands must be washed with soap and running water as soon as feasible. For body fluid cleanup kit requirements for school buses, see Specifications for School Buses, September 1, 1996, available from OSPI, Pupil Transportation at 360-725-6120.

### Disinfectants

An intermediate level disinfectant should be used to clean surfaces contaminated with body fluids. Such disinfectants will kill vegetable bacteria, fungi, TB, and viruses. The disinfectant should be registered by the EPA for use as a disinfectant in medical facilities and hospitals.

Various classes of disinfectants are listed below. All products must be used in accordance with directions on the container. Hypochlorite solution (bleach) is preferred for objects that may be put in the mouth.

1. Phenolic germicidal disinfectant cleaner.
2. Household bleach diluted 1:10 (new solution every day).
3. Quaternary ammonium disinfectant cleaner.
4. Lodophor germicidal detergent with 550 parts per million (ppm) available iodine.

#### Disinfection of Hard Surfaces and Athletic Mats

All equipment and environmental and working surfaces must be cleaned of obvious contaminants and decontaminated after contact with blood or other potentially infectious materials. Contaminated work surfaces must be decontaminated immediately or as soon as feasibly possible with an appropriate disinfectant after completion of procedures, when surfaces are overtly contaminated, after any spill of blood or other potentially infectious materials, and at the end of the work shift if the surface may have become contaminated since the last cleaning.

In order to provide a safe environment, hard surfaces should be cleaned/disinfected at the conclusion of each day. This includes sporting equipment such as wrestling and gymnastic mats, as well as desk and tabletops used for eating. If an incident occurs where body fluid has contaminated a surface, cleaning and disinfecting should take place prior to allowing activity to continue. The surface should be cleaned of visible contamination and then disinfected. During athletic contests an ample supply of towels should be available. Disposable towels and tissues are recommended. Towels must be used for one individual only and then disposed of in an appropriate receptacle. Gloves must be worn when handling blood or objects contaminated with blood. Competitors who are bleeding, have an open wound, or blood on the uniform shall not participate in an event until proper treatment is administered. The bloodied portion of a uniform must be properly disinfected or the uniform changed before the athlete may participate.

-WIAA Sport Rules for 1992–1993.

Soiled surfaces should be promptly cleaned with disinfectant such as household bleach (diluted 1:10). Disposable towels or tissues should be used whenever possible and mops should be rinsed in disinfectant. Those who are cleaning should wear latex gloves or other protective equipment and should avoid exposure of open skin or mucous membranes to the blood or body fluids.

## Disinfection of Rugs

Apply a sanitary absorbent agent, let dry, and vacuum. If necessary, mechanically remove body fluid with a dustpan and broom, then apply rug shampoo (a germicidal detergent) with a brush, and revacuum. Rinse dustpan and broom in disinfectant. If necessary, wash brush with soap and water. Dispose of nonreusable cleaning equipment as noted above.

## Care of Cleaning Equipment

Mops should be soaked in disinfectant after use and rinsed thoroughly or washed in hot water cycle before rinse. Disposable cleaning equipment and water should be disposed of down the sewer system or placed in a plastic bag as appropriate. Nondisposable cleaning equipment (buckets) should be thoroughly rinsed in the disinfectant. All bins, pails, cans, and similar receptacles intended for reuse that have a reasonable likelihood of becoming contaminated with blood or other potentially infectious materials must be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately, or as soon as feasible, upon visible contamination. The disinfectant solution should be promptly disposed of down the sewer system. Remove gloves and discard in appropriate receptacles. Wash hands.

## Laundry Instructions for Clothing Soiled with Body Fluids

The most important factor in laundering clothing contaminated in the school setting is elimination of potentially infectious agents by use of soap and water. Clothes should be washed at 140–160°F. The addition of bleach will further reduce the number of potentially infectious agents. Clothing soaked with body fluids should be washed separately from other items. Presoaking may be required for heavily soiled clothing. Otherwise, wash and dry as usual. If the material is bleachable, add one-half cup of household bleach to the wash cycle. If the material is not colorfast, add one-half cup of nonchlorine bleach (Clorox II, Borateem) to the wash cycle.

If presoaking is required to remove stains (blood, feces) use gloves to rinse or soak the item in cold water prior to bagging. Student clothing should be bagged and sent home for washing with appropriate directions to the parent/guardian. Contaminated disposable items (tissues, paper towels, diapers) should be handled with disposable gloves and disposed of properly.

## Contaminated School Staff Laundry

Reusable Personal Protective Equipment (PPE) and other nondisposable items (towels used to wipe up body fluid, etc.) that are soaked through with body fluids should be rinsed and placed in plastic bags that are labeled with the international biohazard Staff symbol or color coded. Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry must be placed and transported in bags or containers that prevent soak-through and/or leakage of fluids to the exterior. The employer must ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate PPE. When a facility ships contaminated laundry off-site to a second facility that does not utilize universal precautions in the handling of all laundry, the facility generating the contaminated laundry must place laundry in bags or containers that are labeled or color coded. These labels must be fluorescent orange/orange-red or predominately so, with lettering or symbols in a contrasting color. Required labels are to be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal. Red bags or containers may be substituted for labels.

Guidelines for Handling Body Fluids in Schools was prepared by Elaine Brainerd, MA, RN, Connecticut State Department of Education, in consultation with James Hadler, MD, MPH, Chief, Epidemiology Section and Patricia Checko, MPH, Epidemiology Program, Connecticut State Department of Health Services, December 1984. The original text was updated in 2001 to comply with the CDC recommendations and WISHA requirements by the Washington State Department of Labor and Industries and the Office of Superintendent of Public Instruction.

**Table 1**  
**Potential Transmission of Infectious Agents in a School Setting**

<b>Body Fluid/Source</b>	<b>Potential Infectious Agent</b>	<b>Potential Route of Transmission</b>
<b>Blood</b> <ul style="list-style-type: none"> <li>• cuts/abrasions</li> <li>• nosebleeds</li> <li>• menses</li> <li>• contaminated needle</li> </ul>	Hepatitis B and C viruses HIV Cytomegalovirus	Percutaneous inoculation (needlestick)  Inoculation of cuts, abrasions, dermatitis, or mucous membranes
<b>Feces</b> <ul style="list-style-type: none"> <li>• incontinence</li> <li>• diarrhea</li> </ul>	Bacteria— <i>Campylobacter</i> , <i>Salmonella</i> , <i>Shigella</i> , <i>E coli</i> O157:H7 Parasites— <i>Giardia</i> , <i>Cryptosporidium</i> , <i>Cyclospora</i> Viruses—Norovirus, rotavirus, enteroviruses, Hepatitis A virus	Oral ingestion from contaminated hands, objects
<b>Urine</b> <ul style="list-style-type: none"> <li>• incontinence</li> </ul>	Cytomegalovirus Rubella	Oral or percutaneous inoculation from contaminated hands, objects
<b>Vomit</b>	Norwalk Rotavirus	Oral inoculation from contaminated hands, objects  Respiratory inoculation from respiratory droplets
<b>Semen/Vaginal Fluid</b>	Hepatitis B and C viruses HIV Gonorrhea Syphilis Chlamydia Other STDs	Sexual contact including by mucous membranes or contact with nonintact skin
<b>Fluid from Skin or Mucous Membrane Lesions</b>	Herpes Varicella Staphylococcus, Streptococcus (impetigo)	Inoculation of cuts, abrasions, dermatitis, or mucous membranes  Direct contact of contaminated articles with intact skin or mucous membranes.